MIDWEST MARKETING ISSUE
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Hoppers Found on Over 18 Million Acres of Rangeland

Texas, California, Montana, Colorado Have Big Infestations

WASHINGTON — Grasshoppers, perennial insect problem of western and midwestern ranchmen and farmers, have been found on some 18,700,000 acres of rangeland in 16 states, as a result of late summer and fall federal-state surveys, the U.S. Department of Agriculture reports.

It is within these areas that outbreaks requiring organized control effort are likely to occur in 1958, the department says. The most widespread infestations were found in Texas, Montana, California and Colorado.

Judging from the number of grasshoppers present in 1957, there are areas in the Texas Panhandle totaling some 6 million acres that should be watched closely in the spring of 1958, USDA says. Montana has almost 5 million acres of rangeland in the same category, California more than 3 million, and eastern Colorado about 1.5 million. Smaller potential trouble spots occur in adjoining areas of Washington, Oregon, and Idaho, and in Wyoming, Utah, Nevada, New Mexico, Nebraska and South Dakota.

Croplands infestation in general is lighter than it was a year ago. Largest threatening areas appear in Minnesota, Wisconsin, Kansas, Nebraska, North Dakota, South Dakota and Montana.

The surveys reveal how many grasshoppers infest an area, and indicate potential severity of infestations for 1958. Surveys next spring for newly hatched grasshoppers will provide a final index of grasshopper populations and identify areas where control during the 1958 growing season will be essential to prevent severe losses.

Weather may help or hinder grasshoppers. Record-breaking spring rains in 1957 reduced their threat in much of the Southwest.

No Spray Program for Spruce Budworm in 1958

MISSOULA, MONT. — The forest service will skip 1958 chemical spraying of Idaho forests against spruce budworms, according to Region 1 forest service officials.

DDT spraying has been utilized to kill the budworms and has been quite successful, foresters said.

One problem encountered has been that after the budworms are killed by DDT a form of spruce mite has flourished.

Foresters said they have decided to study the budworm problem this year by checking mite infected spots closely, rather than launch an aerial spraying program.

The forest service has sprayed more than 2,000,000 acres in Idaho since the budworm control fight started in 1955.

The spruce budworm is at present under control in Idaho and some small patches of infestation are being watched for future spraying, foresters said.

FERTILIZER ACTIVITIES STUDIED . . .

Reduction of Output Suggested in Report By TVA Committee

KNOXVILLE, TENN. — Results of a ten-month survey conducted by a group of eleven consultants on the Tennessee Valley Authority's program involving the distribution of fertilizer for educational purposes, have just been made public by TVA.

Conclusions reported by the consultants headed by Dr. Earl O. Heady, professor of agricultural economics at Iowa State College, Ames, indicated that the over-all results of the distributor demonstration program have been beneficial, but there are some areas in which improvements might be made from the standpoints of direction of the program; of clearing up the line between "educational" use of fertilizer and outright competition with the fertilizer trade; and better control of the end use of TVA-made fertilizer products.

Delving into all phases of TVA's fertilizer activities, the committee contacted distributors of government-made fertilizers; dealers who sell to farmers, and a broad sample of the farmers themselves. The findings revealed that some 98% of the distributors of TVA fertilizers believe that the program has increased the use of high analysis straight materials and has brought about "a more intelligent use of all fertilizers."

A majority of the same group said that more fertilizer of all types has been sold as a result of the program. At the same time, however, about one third expressed some dissatisfaction with the present program, particularly its procedures.

Dealers reported to investigators that a relatively small percentage of their farmer customers bought TVA fertilizers. "Of his 355 farmer customers, the average TVA dealer sold TVA materials to only 79, or 22%," the report says. "Of his average sales of 1,451 tons, 148 tons, or 10% was TVA material," it continued. The average amount of TVA materials sold was reported by dealers as 1.86 tons per farmer, it was pointed out. Ammonium nitrate was the major material sold directly to the farmers, averaging 96.6 tons per dealer.

Based on the survey and from interviews conducted by its members, the committee reached a number of over-all conclusions concerning the TVA fertilizer distribution program.

First, it conceded that the distributor demonstration "has made a major educational contribution to fertilizer use," and that the program

(Continued on page 24)

Soil Type, Moisture Most Important Factors in Nitrogen Loss, Missouri Work Indicates

COLUMBIA, MO.—Soil type and moisture are more important factors in nitrogen fertilizer losses than is temperature, according to George Wagner, University of Missouri soils scientist.

Reporting on a Missouri research project at a Soil Fertility and Plant Nutrition Council Short Course held here recently, Mr. Wagner noted that the work was designed to find what actually happens to nitrogen fertilizers after application.

In the Missouri work, three soils—ranging from light to heavy textures—were treated with nitrogen materials under carefully controlled laboratory conditions. Following the application, soils were incubated under different environmental conditions for three months.

"During this time," Mr. Wagner said, "the different soil samples were exposed to temperatures ranging from zero to 100° and moisture conditions that varied from air dry to field capacity."

According to the soil scientist, the test soils were moved to a greenhouse following the incubation period and were planted to sudan grass. The sudan was allowed to grow until it had used all of the nitrogen and plants were showing deficiencies. It was then harvested and the total nitrogen content determined.

Nitrogen losses were low where temperature was the only factor considered and were similar on the soils kept at 100° to those kept at a temperature far below freezing. However, the test showed that nitrogen losses were considerably greater on soils with a high moisture content than they were on drier soils.

Losses also varied as to soil texture, Mr. Wagner noted. More nitrogen escaped from heavy clay soils than from either light or medium-textured soils. And, losses were particularly large on heavy soils with high moisture content.

The knowledge that nitrogen is lost as a gas needn't disrupt the current use of nitrogen fertilizers as this loss has been occurring since land was first cultivated, Mr. Wagner said. Instead, it points out that farmers need to provide two pounds of available nitrogen in their fertilizer applications in order to produce one bushel of corn containing one pound of nitrogen.

"Part of the extra pound is used to grow the corn stalk, some is tied up in microbial tissue, and part may be lost to the atmosphere or ground water," Mr. Wagner concluded. "Our research project is aimed at finding out how we can get the most from each two pounds of available nutrients applied to the soil."

(Continued on page 21)

Cotton Crop for 1957 Reduced by 12% From Diseases, Council Report States

MEMPHIS — Diseases cut cotton yields in 1957 by an estimated 12%, a report of the Cotton Disease Council shows.

The 1957 disease toll is more than one and a half per cent higher than the average of losses for the period 1952-56, the National Cotton Council states. Adverse weather conditions were contributing factors, especially to losses through seedling diseases and boll rots.

As in the past, seedling diseases caused the most damage. Losses included seedling diseases, 2.41%; boll rots, 2.06%; verticillium wilt, 1.78%; bacterial blight, 1.74%; fusarium wilt, 1.11%; nematodes, 1.09%; root rot, 1.05%; anthracnose, .55%; ascocyta blight, .09%; all others, .12%.

The disease loss estimate was compiled from 44 state cooperators across the Cotton Belt. Harlan E. Smith of the Texas Extension Service said that, as in previous years, the report points out the need for continued and increased funds for pathological research and education.

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Chemical Industry as Whole Expects 5% Increase in Sales of all Products in '58

WASHINGTON — Preliminary year-end returns for the chemical industry—now the nation's third largest—indicate that 1957 has been a record year. Industry leaders anticipate a continued upswing in 1958.

Here, according to the Manufacturing Chemists' Assn., is the situation:

Sales should total a record $24.4 billion for 1957. This would be 7% above the 1956 figure, 122% above 1946. A 5% boost is forecast for '58.

Capital investments for 12 consecutive years have averaged more than $1 billion annually. In 1957, an estimated $1.8 billion was invested in plant expansion. This better-than-billion-dollar average will continue in 1958.

Chemical production will continue to climb. The production index for chemicals averaged 184—a new high —through September of this year. The 1956 average was 177.

Chemical profits will be above the average for all manufacturing, but rising labor and distribution costs have squeezed profit margins. During the first half of this year profits after taxes equalled 7.8%, compared with 8.3% for the corresponding '56 period. Margins should improve in '58.

Although intense intra-industry competition has held down general price increases through the years, chemical prices were forced up 2.5 points in 1957. Small increases are expected on some products next year.

The industry spent an estimated $500 million on research and development in 1957; it will continue to lead private groups in basic research. An average of 400 new products are being introduced each year.

Expanded consumer markets are probable for man-made fibers, plastics, drugs and pharmaceuticals. The rubber, paper, textile and automotive industries, among others, will use increasing amounts of chemical products in the immediate future.

G. Lawrence Keller Joins Frontier Chemical

WICHITA, KANSAS—G. Lawrence Keller has resigned his position as director of the Wichita Crime Commission to become assistant to Wesley H. Sowers, president of the Frontier Chemical Co., effective Jan. 1. Mr. Sowers said Mr. Keller's new duties will include public relations, plant security and "some law." Mr. Keller was a law school graduate when he joined the FBI in 1939, where he served until becoming director of the Wichita Crime Commission in 1952.

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Agronomist Reports on Phosphate Application

LAFAYETTE, IND. — How should phosphate fertilizer be applied to Indiana soils for maximum production? The answer to that question is being sought by S. A. Barber, Purdue University research agronomist, in a long range study.

Mr. Barber's work began at Purdue's agronomy farm, five miles northwest of the campus, in 1952. It involves three levels of available phosphate in the soil, plus several rates of phosphate fertilizer in the row at each soil test level. A rotation of corn, soybeans, wheat and hay, in that order, has been followed.

In a progress report on the experiment, Mr. Barber reports that:

Corn was not able to get enough phosphate to produce top yields from row fertilizer alone on soils low in available phosphate.

Hay yields were increased where additional phosphorus had been broadcast to raise the soil test level.

Maximum yields of wheat and soybeans were attained either by applying phosphate in the row or using broadcast applications to build up a high phosphate test in the soil.

To date, Mr. Barber has found that maximum production for the rotation was obtained where phosphate was broadcast to give a high soil test value and then a small amount of phosphate was also applied in the row on wheat and corn.

New Citrus Virus Organization Formed

BERKELEY, CAL. — A University of California scientist has been named to head a new world organization of citrus virus researchers.

J. Merrill Wallace, plant pathologist at Riverside, was elected chairman of the group during the recent first international Conference on Citrus Virus Diseases, held on the Riverside Campus.

Some 150 delegates from a dozen citrus-producing countries attended the five-day meeting, which heard reports covering most of the recent accomplishments in citrus virus research.

The newly formed citrus virus organization will meet in citrus-growing countries every two or three years. Objective of the group, as expressed by delegates, will be to intensify the present international attack on citrus viruses so that all citrus countries can benefit.

New Mexico Dealers To Meet in Santa Fe

ALBUQUERQUE, N.M. — Soil-building techniques will be the subject of several papers to be given at the annual convention of the New Mexico Grain & Feed Dealers Assn. at LaFonda Hotel, Santa Fe, Jan. 24-25. Dr. R. L. Beacher, agronomist at the University of Arkansas agricultural experiment station, will discuss "The Promotion of Better Fertilizer Usage."

Two representatives of New Mexico A&M College are also on the program. Dr. S. C. Vandecaveye, professor of soils, will talk on "The Living Soil," and Dr. Philip J. Leyendecker, head of agricultural services, will give a progress report on field tests of fertilizers and crops.

Dr. J. J. Drain of the American Cyanamid Co. will talk on "General Nutrition" and Will Harrison, Santa Fe newspaper columnist, will discuss the New Mexico political situation.

MISSOURI MEETINGS

COLUMBIA, MO. — The Soil Fertility and Plant Nutrition Council of Missouri is sponsoring fertilizer dealer meetings in the Chillicothe, Warrensburg and Mt. Vernon areas late in January. The council said that if these meetings are successful, others will be held throughout the state.

Richard A. Fancher Named Manager of Welcome, Minn., Firm

WELCOME, MINN. — Richard A. Fancher, Fairmont, has been named manager of Welcome Agricultural Chemical Co. For several years he has been acting manager, working under Jay Schuler, president and chairman of the board.

The firm supplies both liquid and dry fertilizer. Started seven years ago with a capacity of about 3,000 tons annually, the company now produces about 40,000 tons a year.

Current officers are Mr. Schuler of Welcome; Dr. E. W. Eickelberg, Jackson, Ohio, vice president; William Bicknase, Welcome, secretary, and Oscar Olson, Truman; Arthur Roessler and Paul Matthies, both of Welcome, and L. L. Carpenter, Fairmont, directors.

Repellent Product Said to Protect from Horse Flies

CHICAGO — That claims for repelling horse flies (Tabanidae) may now be made for livestock sprays and backrubber formulations containing "Tabutrex" insect repellent, has been announced by Glenn Chemical Co., Chicago, makers of the repellent product.

The company says that extensive field tests during the past several seasons have shown good results against the horse fly, and also against the stable fly and horn fly which attack livestock.

It is stated that data from tests involving thousands of heads of dairy cattle indicated that the level of "Tabutrex" could be reduced to as little as 0.50% in combination with certain knockdown insecticides, with no loss in effectiveness.

"Although Tabutrex formulations without insecticide additives have proved effective in protecting cattle from biting flies, consumer reports have indicated that many dairy farmers preferred a spray which would destroy insects in the barn on contact and thereafter repel new infestations of biting flies from cattle in the pasture. Practical pasture protection from horse flies and stable flies was achieved consistently with such formulations throughout the fly seasons," the company says. It adds that these results were obtained with formulations which have been shown to leave no residues in milk or meat.

Beef cattle also received attention during the past summer, the report continues. These animals cannot be sprayed as often nor as thoroughly as dairy animals, but effective fly control measures for these animals has been found in the backrubber device which coats the back and sides of the animal when it rubs against a cable soaked with insecticidal oils. By adding "Tabutrex" to the insecticides normally used in backrubbers, the horse fly is repelled from the animal, it is reported. The makers state that new John Doe labels including latest permissible claims and recommended formulations are available from the Glenn Chemical Co., Inc., Chicago.

Monsanto Expands Midwest Coverage

ST. LOUIS — J. G. Rotramel of Kansas City, Mo., farm chemicals sales representative for Monsanto Chemical Co.'s Organic Chemicals Division, has been transferred to Columbus, Ohio, in a doubling of the company's sales service on farm chemicals in the six-state area of Illinois, Indiana, Kentucky, Michigan, Ohio and Wisconsin, Charles P. Zorsch, manager of farm chemicals sales for the division, has announced.

The area formerly had been part of a larger sales territory serviced by E. M. Billings from Bloomington, Ill. In addition to added sales coverage, the area also will be given increased technical service on Monsanto farm chemicals by Herbert J. Ploch of St. Louis, a technical sales specialist on agricultural chemicals, whose duties have been widened to include field service in the midwestern area with emphasis on the introduction of new products.

Mr. Rotramel, who joined Monsanto in 1955 with the start-up of its program of farm chemicals sales under its own label, has been representing these products in the states of Missouri, Kansas, Arkansas and Oklahoma. A University of Missouri graduate, he is originally from Thompsonville, Ill.

Mr. Ploch, who is a chemistry graduate from Texas A&M, was a Lion Oil Co. research chemist on herbicides when that company merged into Monsanto in 1955. He has been in the Organic Chemicals Division's farm chemicals program since February, 1956, operating from the division's St. Louis headquarters.

Area Fertilizer Meetings Planned in Virginia

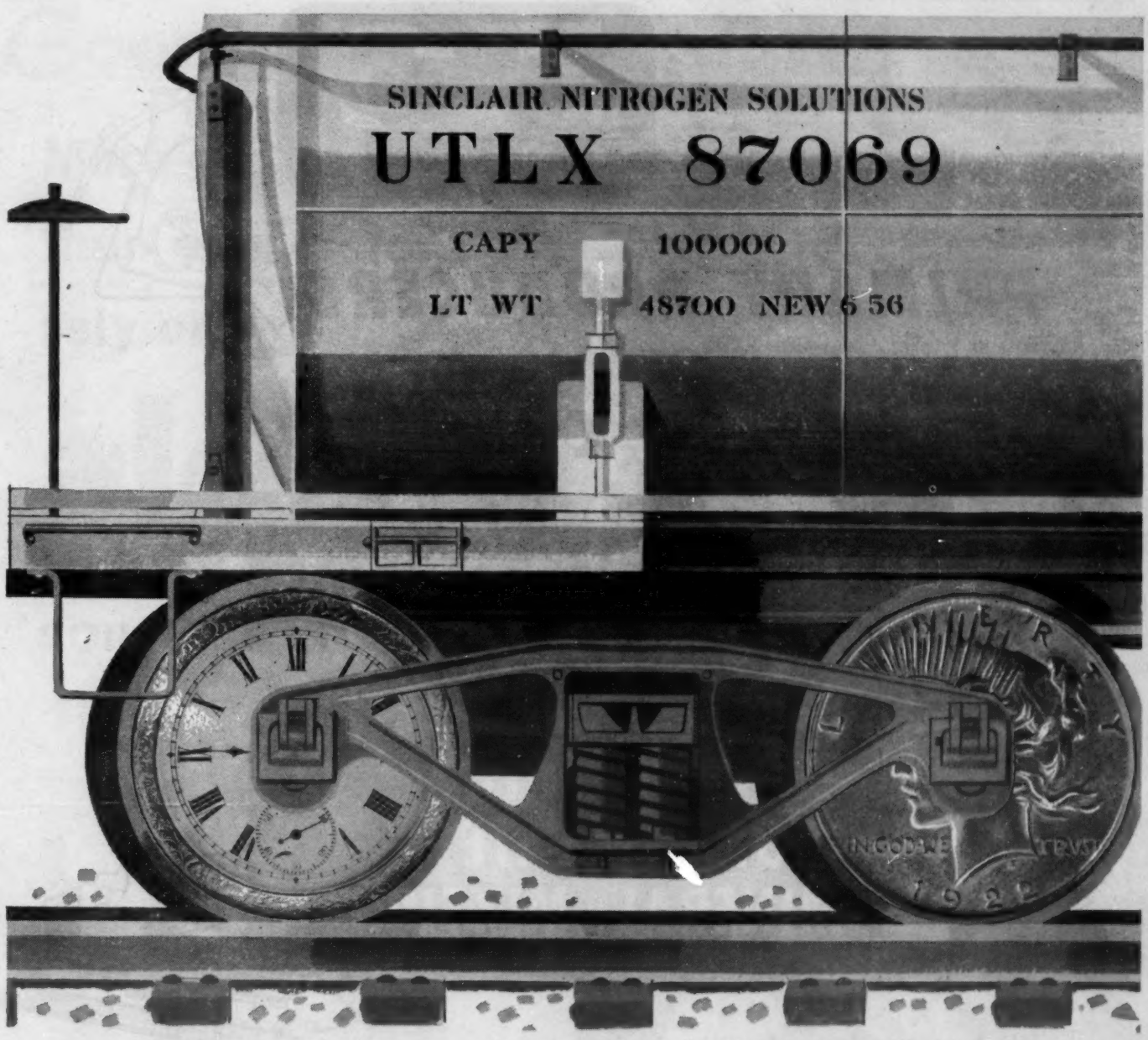
BLACKSBURG, VA.—Efficient selection and use of fertilizer will be discussed in a series of January meetings for salesmen and dealers in Virginia. W. W. Lewis, agronomist at Virginia Polytechnic Institute Agricultural Extension Service, says the meetings will be held: Jan 20, Culpeper; Jan. 21, Tappahannock; Jan. 22, Richmond; Jan. 23, Halifax; Jan. 24, Lexington; Jan. 27, Marion; and Jan. 29, Suffolk. All will begin at 9:50 a.m., and close at 3 or 3:30 p.m.

Presiding at the meetings will be E. Y. Floyd, director, Plant Food Institute of North Carolina and Virginia. Topics to be discussed at all of the meetings, and the speakers, Area"; W. W. Lewis, "Good Cultural ronomist, "Using the Soils of this area"; W. W. Lewis, "Good Cultural Practices Essential for Use of Fertilizer"; H. L. Dunton, head, VPI agronomy department, "How to Select the Best Fertilizer," and K. E. Doope, farm management specialist, VPI, "Economics of Fertilization."

At certain meetings, in the areas in which the topics apply, fertilization of special crops such as soybeans, tobacco, and peanuts will be discussed. Two meetings dealing with fertilization of truck crops also are being scheduled.

NEBRASKA CORN PROGRAM

LINCOLN, NEB. — The "Better Corn-More Profits" program in Nebraska will be conducted entirely on a county basis in 1958. Unlike previous years, no high corn producers will be selected at the state level, reports Dr. M. D. Weldon, extension agronomist at the University of Nebraska. Local county agents will be free to continue the program, Dr. Weldon said. The state extension service will not assist in measuring the 1958 corn yields nor publish a summary of results.



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INSECT AND PLANT DISEASE NOTES

Pesticide Programs Successful in Almost Eradicating Two Insects; Others Threaten

WASHINGTON—Like brush-fire fighters, U.S. Department of Agriculture and state pest-control workers at year's end were stamping out the last signs of two destructive foreign insects in the U.S., and starting a long watch for isolated flare-ups.

In the two-year war on the Mediterranean fruit fly in Florida and the 17-year fight in California against the stone-fruit pest, Hall scale, intensive federal-state control measures have brought eradication almost in sight, the department has pointed out.

The last Medfly caught was on Nov. 26—the first find in 20 days. Trapping for this insect continues, however, to protect against any new outbreak. All known infestations of Hall scale are under fumigation.

In the three-year battle against the grain-destroying khapra beetle in Arizona, New Mexico, and California, outlook for eradication remains encouraging, USDA pest control workers believe, although occasional farm-building and commercial storages continue to turn up infested and require fumigation.

An intensive campaign got under way to eradicate the imported fire ant, which affects animals, crops, and man, and infests more than 20 million acres in 9 southern states. Two new threats to U.S. crops, the soybean cyst nematode and witchweed of corn, are under quarantine restrictions to halt spread, and intensive survey and evaluation programs are in progress. The nematode has been found on about 14,000 acres in six states. Witchweed occurs on more than 1,700 farms in North and South Carolina. Swift measures were taken during the year toward eventual control of another invader, the "hoja blanca" disease of rice, which was found in a small area of Florida.

State plant protection agencies over the nation searched more intensively within their own borders for foreign pests, and increasingly demanded strengthened federal-state programs for detection of newly introduced pests.

Progress in wiping out, controlling, or delaying spread of other crop pests in 1957 was reported by scientists of USDA's Agricultural Research Service.

Recent spread of the gypsy moth, destructive forest and shade-tree pest, set off a long-range eradication effort in 1956 and 1957 over about 3.5 million acres in New York, Pennsylvania, and New Jersey.

Three pests of foreign origin—the Japanese beetle, white-fringed beetle, and pink bollworm of cotton—have been slowly increasing despite controls that have held them in check for many years. However, these insects made no significant spread into new areas in 1957. Each year some outlying infestations are eliminated. The Japanese beetle has been found in 24 states, the white-fringed beetle in nine states, and the pink bollworm in seven states.

Many southern farmers, learning to live with the sweetpotato weevil, switched, in 1957, to widespread use of insecticidal techniques to avoid taking land out of sweetpotato production. Eradication of the weevil is considered impractical because of the pest's fondness for wild morning glories as well as sweetpotatoes.

More heartening to USDA scientists was progress against the European chafer in the East and the Golden nematode of potatoes in New York, where the pests are held in tight check in small areas. Progress against stem rust of grains through destruction of barberry host plants is also encouraging. Phony peach and peach mosaic diseases infected only about one-half of 1% of the more than 7 million trees inspected. No citrus blackflies were found in the U.S. during the year. Eight Mexican fruit flies were caught in California, but prompt eradication pushed this threat to U.S. citrus back within previous bounds.

Unprecedented spring rains reduced the grasshopper threat in much of the Southwest. More than 1,600,000 rangeland acres in 12 western and midwestern states received insecticidal treatment against grasshoppers, and 74,000 acres were treated against Mormon crickets.

Damage from the spotted alfalfa aphid appeared to be levelling off as damage reports dropped sharply in contrast to losses reported during the past two years.

More pest-harboring materials are arriving at our ports than ever before, the USDA reports. Total imports and exports in this country have tripled since quarantines began in 1912, but the number of harmful foreign insects introduced has been cut more than half—some estimates run above 65%—from the previous 60 years' level. A similar drop in plant-disease introductions has also been achieved.

Pine Beetle Control Funds Sought in Idaho

SACRAMENTO — George Zappetini, Nevada state forester, has asked Washoe County, Nevada, commissioners for $20,000 to start a campaign against an infestation of pine beetles centered on the Crystal Bay, Lake Tahoe, property of George Whittell.

Mr. Zappetini told the commissioners that millions of pine beetles had been found on the property. He said that another $20,000 will be needed later to carry on the campaign.

Despite his warning that the infestation might be expected to spread, the commissioners tabled the request.

CLEMSON CIRCULAR

CLEMSON, S.C. — Circular 432, Steps in Control of Small Grain Diseases and Insects, is now being distributed by the Clemson Extension Service. It was prepared by Fred H. Smith, extension plant pathologist, and W. C. Nettles, leader, Clemson entomology and plant disease extension work.

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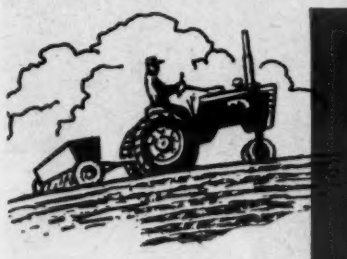

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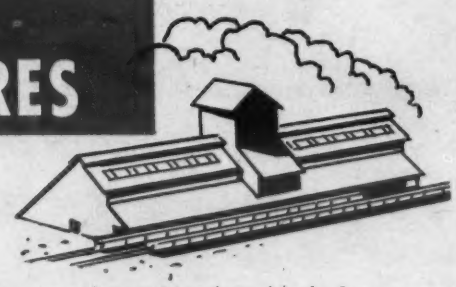

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John E. Fletcher

U.S. Potash Names Two New Vice Presidents

NEW YORK — The advancements of two executives have been announced by United States Potash Company, division of U.S. Borax & Chemical Corp. John E. Fletcher has been named vice president and sales manager of the division, and Earl H. Miller vice president and resident manager of the division in Carlsbad, N.M.

Both men have been with U.S. Potash for a number of years. Mr. Fletcher, a graduate of the University of Michigan, joined in 1949, and Mr. Miller, a graduate of the School of Mines of Washington State College, in 1951.

During World War II, Mr. Fletcher was a captain in the air force, and was made a sales representative upon joining U.S. Potash after the war. He later advanced to the position of assistant sales manager, then sales manager before his recent appointment as vice president which became effective on Jan. 1.

Mr. Miller was assistant resident manager until July of 1956 at which time he was promoted to the position of resident manager at Carlsbad, where the mine and refining plant of the company is located. His new appointment as vice president also became effective Jan. 1.

Pesticide Exports Show 4% Gain During First 8 Months of 1957

WASHINGTON—Exports of pesticides during the first 8 months of 1957 amounted to 220 million pounds valued at nearly $62 million, up approximately 4% in volume and 6% in value compared with the corresponding period of 1956, according to the U.S. Department of Commerce.

As usual, copper sulfate and DDT were the big export items, together accounting for 43% of the total. However, exports in the basket category of miscellaneous agricultural insecticides approached this volume, with 36% of the total.

FARM AND HOME WEEK

ST. PAUL—"What's new" in crops and soils research and in weed control will be featured at three special sessions during Farm and Home Week Jan. 14-17 on the St. Paul campus of the University of Minnesota. Agricultural specialists will report to visitors at an afternoon weed program Jan. 14, a crop improvement session Jan. 15 and a soils meeting Jan. 16. At the weed session, there will be reports on recent research in weed control, chemicals and other methods, legal aspects of weed control, methods of chemical application and research on how chemicals act inside weeds.

Nebraska Exposition Set for Jan. 14-16

LINCOLN, NEB. — The Nebraska Fertilizer Institute, Inc., and the University of Nebraska College of Agriculture, Extension Service will sponsor a three-day Fertilizer, Machinery and Chemical Exposition in Lincoln Jan. 14-16.

The Exposition will take the place of the Fertilizer Dealers Conference which has heretofore been held at the College of Agriculture. The opening day, Jan. 14, will be designated as dealers day with the program specifically designed for the benefit of the dealer. On Jan. 15 and Jan. 16 the meetings will be open to farmers and producers of farm crops, and the Institute and the Extension Service are sending special invitations to farmers to attend these two-day meetings. Dealers are requested to invite local farmers in their area to attend the meeting on these dates.

Many exhibitors will display their materials to promote better crops in Nebraska during the meeting. Included in items for display are new farm machinery, especially designed to properly place fertilizer, new and improved fertilizers that will be on the Nebraska market this spring, chemicals for the control of insects and diseases and the newest methods of application, certified seed displays and many others of interest to farmers and producers in Nebraska.

Speakers at the meeting will include many of the research people of the College of Agriculture, Extension Service personnel, as well as speakers from the industry including such companies as Allied Chemical & Dye Corp., Nitrogen Division; Phillips Chemical Co. and Spencer Chemical Co.

A dealers' social hour and dinner will be held at Hotel Cornhusker on Tuesday evening, Jan. 14, at which time the Institute will honor the winners of the "Better Corn—More Profits" contest conducted by the College of Agriculture.

October Super Output Ahead of Year Ago

WASHINGTON — October production of superphosphate and other phosphatic materials totaled 216,251 short tons, compared with 207,487 short tons in October, 1956, the Bureau of the Census reports.

Shipments last October amounted to 159,589 short tons, a gain from 147,853 short tons the previous October. Stocks on hand at the end of last October totaled 336,620 short tons, down from 393,426 short tons a year earlier.

The October, 1957 output included 123,811 short tons of normal and enriched, 74,062 short tons of concentrated and 18,378 short tons of other phosphatic fertilizers.

Michigan Conference

EAST LANSING, MICH.—The 1958 Michigan Insecticide & Fungicide Conference will be held Jan. 21-22 at Michigan State University.

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More growers than ever before rely on

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Each year thousands of growers tell each other of the tremendous success they're having with aldrin as a soil insecticide. Aldrin's effective kill of soil insects helps them get bigger yields of better quality corn.

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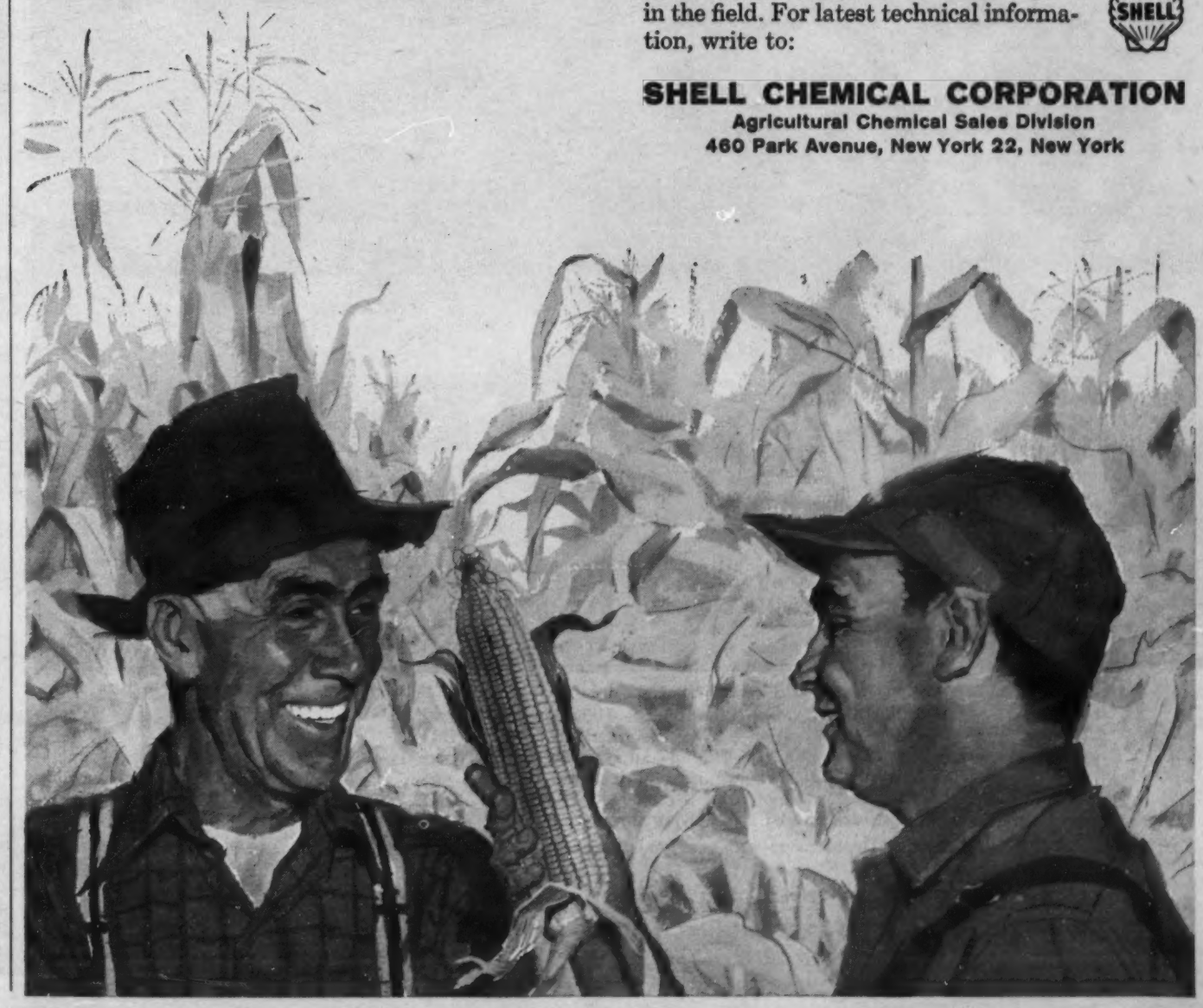


Industry Patents and Trademarks

2,816,812

Ammonia Corrosion Inhibitor Feed System. Patent issued Dec. 17, 1957 to Alvin W. Peck, Bartlesville, Okla., assignor to Phillips Petroleum Co., Bartlesville, Okla. In an apparatus for automatically introducing a neutralizing agent into the vapor space of a storage tank in combination a neutralizing agent source; a means for filtering foreign matter from said agent; a high pressure regulating means adapted to reduce the pressure of and control the flow of said agent; a metering orifice; and a low pressure regulating means actuating said high pressure regulating means adapted to open to permit flow of said agent therethrough in response to a change of pressure on its downstream side, all being connected serially through suitable tubing to said vapor space.

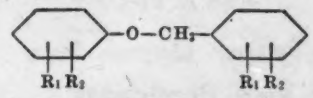
The apparatus described for automatically introducing a neutralizing agent into the vapor space of a storage tank wherein the high pressure regulator comprises an upper body member and a lower body member with a diaphragm disposed between said members; an upright conduit extending through said lower body member; a plug threaded into the under side of said lower body member; a valve head with resilient gasket material on its upper surface; a valve stem attached to the under side of said valve head, said valve stem riding in a recess in said plug; a compression spring encompassing said valve stem and resting on a seat in said plug, said spring being in contact with the under side of said valve head and tending to force said gasket material against the lower end of said upright conduit; outlet and inlet conduits extending laterally from said upright conduit, said conduits being so disposed that when said gasket material is against the lower end of said upright conduit said outlet conduit still connects with said upright conduit while said inlet conduit is blocked by said valve head; a screw member threaded through said upper body member and adapted to compress and release a compression spring resting on said diaphragm; and an upright member positioned in said upright conduit and adapted to move downwardly in response to pressure from said diaphragm to force said valve head away from the lower end of said upright conduit.

2,816,825

Plant Propagating Medium. Patent issued Dec. 17, 1957, to George W. Schmitz, Scottsdale, Ariz. and Raymond E. Rothfelder, Evanston, Ill., assignors to Zonolite Company, Chicago, Ill. A growth medium for the propagation of plants to the transplant stage consisting essentially of a mixture of expanded vermiculite, 2 to 4 percent, by weight of the vermiculite, of a water-insoluble phosphate as the essential phosphate supplying component, and 0.4 to 1.5 percent, by weight of the vermiculite, of ammonium nitrate, as the essential nitrogen-supplying component, all of said ammonium nitrate being combined with the said vermiculite on contact therewith, providing an essentially water insoluble source of nitrogen, said medium being otherwise substantially free of water-soluble salts.

2,817,622

Compositions Having Joint Insecticidal and Bactericidal Action. Patent issued Dec. 24, 1957, to Albert Obladen, Hamburg-Gross Flottbek, and Martin Deutsch, Hamburg, Wandsbek, Germany, assignors to Lehn Fink Products Corp. A composition having joint insecticidal and bactericidal action and comprising in admixture an insecticidal compound of the general formula



therein R_1 and R_2 denote residues selected from the group consisting of hydrogen atoms and chlorine atoms, at least one of said substituents being chlorine, and a phenol.

2,817,581

Cast Ammonium Nitrate and Urea Explosive. Patent issued Dec. 24, 1957, to William H. Rinkenbach, Salisbury Township, Lehigh County, and William J. Carroll, Jr., Allentown, Pa., assignors to Trojan Powder Co.

A cast explosive composition comprising ammonium nitrate, urea, and additional sensitizing component, the proportions being 14-20 parts by weight of urea, 1-6 of the additional sensitizing component, and ammonium nitrate in amount to make 100 parts total of the three materials and the composition being largely in the form of a solidified magma of urea and ammonium nitrate containing the additional sensitizing component dispersed throughout the magma and crystals of ammonium nitrate embedded in the magma and bonded thereby.

Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of $25 must accompany each notice of opposition.

Cela, in capital letters, hand-drawn, with drawing or upward-pointing arrow, for insecticides for animals and insects, chemical composition for the destruction of weeds and plants and disinfectants. Filed March 19, 1957, by Cela Landwirtschaftliche Chemikalien, Ingelheim am Rhein, Germany.

Shamrock, in capital letters, for fertilizer. Filed July 18, 1957, by International Minerals & Chemical Corp., Chicago, Ill. First use, June 25, 1957.

Pot O' Gold, in capital letters, for fertilizer. Filed July 18, 1957, by International Minerals & Chemical Corp., Chicago, Ill. First use June 25, 1957.

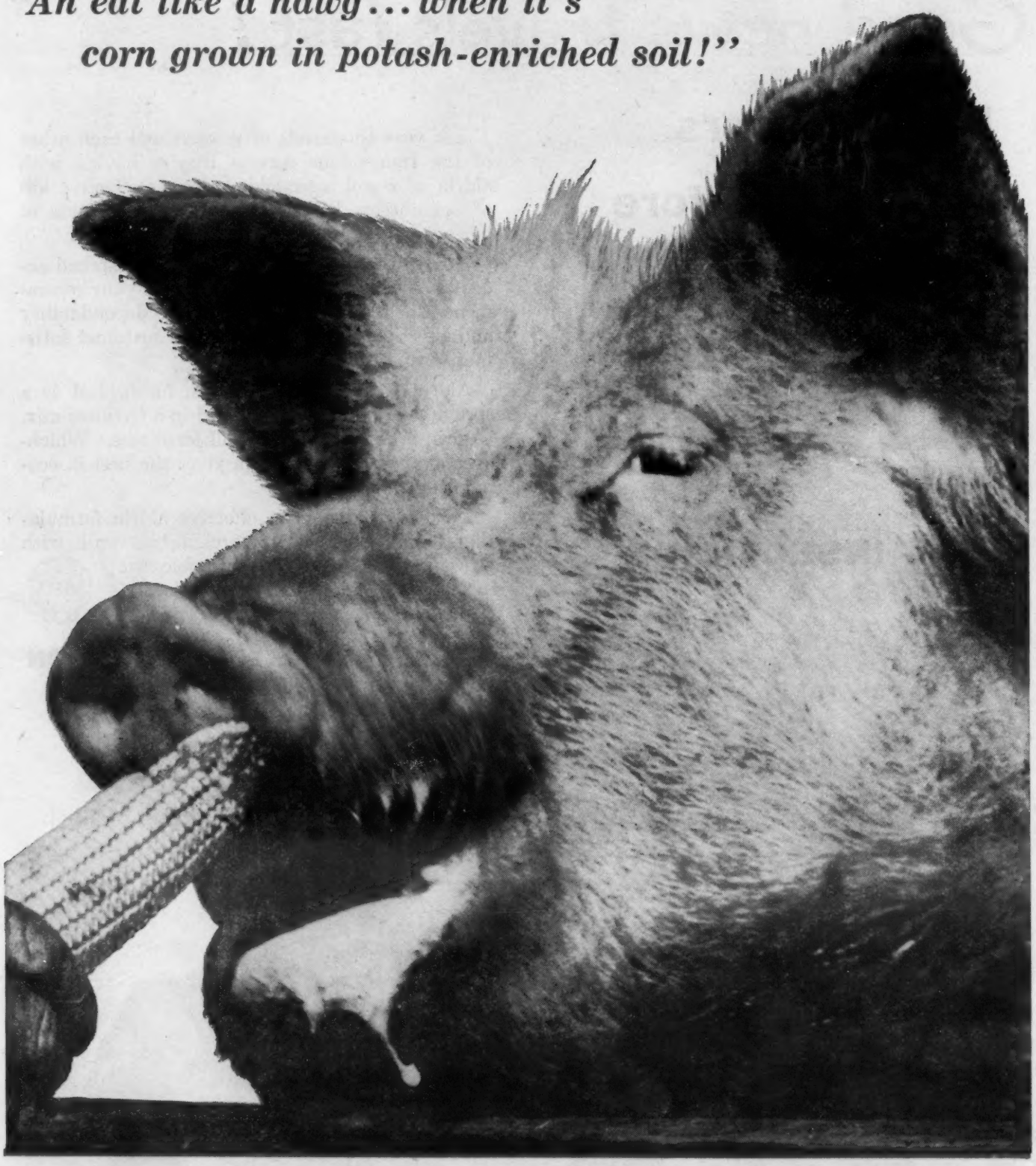
Terra-Gro, in capital letters, for fertilizer. Filed July 18, 1957, by John R. Jewell, Lynch, Md. First use Jan. 1, 1956.

Vitamure, in capital leters, for plant manures and fertilizers. Filed April 23, 1957, by The Eclipse Peat Co., Ltd., Glastonbury, Somerset, England.

FARMERS TO MEET

TRENTON, N.J. — More than 40 agricultural groups will gather in Trenton Jan. 27 to Feb. 1 for the 1958 New Jersey Farmers Week. Sponsored by the State Department of Agriculture and other cooperating organizations, this will be the 87th year the sessions have been held.

"Ah eat like a hawg... when it's corn grown in potash-enriched soil!"



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"Proper Introduction" Boosts Sales of Ohio Liquid Fertilizer Distributor

By Al P. Nelson
Croplife Special Writer

New products often need introduction to the consumer.

When Ed Frazier, manager of the New Holland (Ohio) Grain Co., visits a farmer to sell him a complete liquid fertilizer, he carries with him case histories of results with such fertilizer that have been obtained by other farmers. This type of introduction aids him in getting farmers to try a complete liquid fertilizer.

So successful has Mr. Frazier's selling campaign become that at present he has a storage capacity for 20,000 gal. of mixed fertilizer and he fertilized a total of 25,500 acres through August, 1957. Most of this fertilizer was applied on corn, wheat, oats and soybean acreage.

Mr. Frazier buys his fertilizer from a plant at Kingston, Ohio, about 45 miles distant. The variety of analyses appeals to the farmer, as does the ease of application, Mr. Frazier says.

For applying mixed fertilizer, Mr. Frazier has a large truck with spray attachments. One boom is 36 ft. long which permits a lot of coverage on each trip down the field.

"One reason why I like the liquid fertilizer business is that practically 90% of it is on a cash basis," says Mr. Frazier. "We are beginning to do a lot of top dressing with liquid fertilizer and for this we use our big booms a great deal."

Mr. Frazier reports that on wheat land farmers use between 200 to 600 lb. per acre depending upon the analyses of the liquid fertilizer.

On one large field last August, Mr. Frazier applied complete liquid fertilizer on a soybean field stubble which had been planted to wheat in late summer. He predicts that there will be much of this type of fertilizer spreading in the future in certain areas.

In addition to the fertilizer department, Mr. Frazier has a profitable feed mill. The feed mill operates on the grain bank plan. Under such a program the farmer brings his grain to the feed mill, stores it there at a small monthly rate per bushel and then uses the grain in his processed feed as he needs it. Many of these feed customers also buy their liquid fertilizer from Mr. Frazier.

This dealer is also an airplane owner and pilot. Often he uses his plane to fly over his trade area inspecting the crops that are growing on land which his rigs have fertilized with liquid. Sometimes, too, he takes farmers for an airplane ride showing them their homes, barns and crops.

This summer, too, Mr. Frazier stocked a complete lawn fertilizer in liquid form. It comes in a 2-qt. bottle with a patented spray top. The unit sells for $3.95 and when the customer wants a refill he pays $2.50 for a gallon of pre-mixed liquid fertilizer. This type of lawn fertilizer and attachment has sold very well at this dealership.

Mr. Frazier thinks that the demand for this fertilizer will increase next season as more people become aware of its availability.

"Anything reliable which the dealer can get to sell in the fertilizer and farm chemical line, he should push, for it will increase his store traffic and his volume," states Mr. Frazier. "There are hundreds of lawns, for example, in every community and most of them need fertilization. This liquid fertilizer is an easy, inexpensive way to do it. The feed and fertilizer dealer should get this business before someone else does."

AGRICULTURAL CONFERENCE

LAFAYETTE, IND. — "Recent Changes in Fertilizer Practices" is one of the topics to be discussed at the opening day of the annual Purdue University winter agricultural conference, Jan. 20-25. Purdue agronomists, biochemists, entomologists, agricultural engineers, botanists and plant pathologists will be on the program.

Jack Falconer

John P. Falconer of Chase Bag Co. Dies

DALLAS, TEXAS—John P. (Jack) Falconer, manager of the Dallas branch of Chase Bag Co. until retirement some months ago because of ill health, died here recently of a heart attack. Mr. Falconer was 45. His family was closely associated with Chase and some of its predecessors for two generations.

His father, who at one time also held the position of manager at Dallas, still resides in Dallas, though now retired.

Mr. Falconer first became associated with Chase in the early 1930's when he accepted a position as office manager at Milwaukee. A short while later he was transferred to Chicago as office manager of the general sales office, where he remained 10 years. He was appointed as assistant manager of the Dallas branch in 1947, and as manager a year later. He held the position as manager until retirement.

Besides his father, he is survived by his wife, two sons, a daughter, one brother and one sister.

Mr. Falconer's father was manager of the Dallas branch until retirement in 1933. An uncle, the late J. W. Falconer, was associated with the old Northern Bag Co., Minneapolis, until it was absorbed by Chase, and was chairman of the board of Chase at the time of his death.

To Mr. James Judah of Columbia, Missouri

"Mathieson means more *profitable farming*"

Mr. Judah's yearly harvests average: 60 bushels of wheat . . . 95 bushels of corn . . . 120 bushels of milo. He farms over 400 acres, double cropping much of his land—corn and milo after barley and oats silage. His basic program—160 acres watered with a Mathieson portable irrigation system . . . high-analysis AMMO-PHOS fertilizers . . . Mathieson pesticides.

Mr. Judah used to be a fertilizer dealer before he became a full-time farmer. "I still have something of a competitor's respect for Mathieson products," he says. "Mathieson quality is the important factor, and the men behind the products mean a lot too. My Mathieson dealer is well informed and helpful. The Mathieson field representative and agronomist here are always ready with sound professional help on technical problems."

It's the same everywhere, from the tobacco lands of the Carolinas to the truck farms of California's Imperial Valley . . . from the Dakota's Red River to the Rio Grande . . . for thousands of the nation's progressive farmers as well as Mr. Judah—Mathieson truly means more profitable farming.

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5821

AP&CC Opens Midwest Office in Chicago

LOS ANGELES—American Potash & Chemical Corp. has opened a Great Lakes-Midwest territorial office at Chicago, according to an announcement by W. J. F. Francis, vice president in charge of sales. The new offices will service an area bounded roughly by North Dakota to Kansas on the west, Oklahoma to Arkansas on the south and Kentucky to Michigan on the east.

John L. Anderson has been appointed manager of the Chicago office, located at 3557 West Peterson Ave. Mr. Anderson joined American Potash & Chemical Corp. recently after serving as vice president in charge of sales for the George C. Peterson Co.

Two sales representatives have been named for the new office. They are Edward C. O'Connor, who has been with AP&CC since 1955 as sales representative operating from Oskaloosa, Iowa and Wallace O'Dowd, who previously was with Spencer.

"Opening of the new offices to provide better service for our customers was demanded by AP&CC's greatly increased business in the Great Lakes-Midwest area," Mr. Francis said in making the announcement.

Administration of the new office will be from AP&CC's eastern general sales offices in New York.

Charles G. Whinfrey Joins Chicago Firm

CHICAGO—Charles G. Whinfrey, Jr. has been appointed manager of sales for Great Lakes Solvents, Inc., Chicago. Mr. Whinfrey was formerly manager of northern agricultural chemical operations for Pennsalt Chemicals Corp. at Aurora, Ill.

According to Thomas E. O'Connor, vice president, Mr. Whinfrey will direct the sales for Great Lakes' full line of chemicals, aromatics and naphthas. He will also manage the company's agricultural chemical compounding facilities.

Liquid Plant Planned In Larned, Kansas

LARNED, KANSAS—C. M. Phinney, Jr., a native here, will establish a plant to engage in production of liquid fertilizer.

Application has been made to the city planning commission for authority to erect the plant along Santa Fe right-of-way.

Mr. Phinney, a graduate engineer, for the past two years has been a technical representative with Sohio Chemical Co.

A concrete block building will be erected. Mr. Phinney expects to have first production ready by Feb. 15. He will install a trio of 15,000-gallon storage tanks, two of them underground.

IRRIGATION SHORT COURSE

COLLEGE STATION, TEXAS — The annual Texas Irrigation Short Course will be held at Texas A&M College Jan. 16-17.

Dr. J. D. Aughtry

Grace Chemical Names New Agricultural Service Head

NEW YORK—Grace Chemical Co., division of W. R. Grace & Co., has appointed Dr. J. D. Aughtry, manager of agricultural services to its main offices in Memphis, Tenn.

A nitrogen fertilizers expert, Dr. Aughtry will assist the company's sales force in technical problems concerning nitrogen applications and soil development. Grace is a producer of nitrogen fertilizers and a major manufacturer of anhydrous ammonia and urea.

Before he joined Grace, Dr. Aughtry specialized in nitrogen fertilizers application at the Dominican Operations of the West Indies Sugar Corp., where he was director of cane supply and head of the department of research and soil investigation.

Dr. Aughtry graduated with a B.S. in agronomy from Texas A&M in 1939. In 1947, he received his Ph.D. degree in agronomy at Cornell University.

A former resident of Texas, Dr. and Mrs. Aughtry and their daughter now live in Memphis.

Michigan Insecticide Conference Scheduled

EAST LANSING, MICH. — Michigan State University specialists will report on their latest research with insecticides and fungicides at a Department of Entomology sponsored conference here Jan. 21-22. About 100 are expected to attend this annual Michigan Insecticide-Fungicide Conference at Kellogg Center.

Miriam Strong, Gordon Guyer and Donald DeBeeuw will report the first day about "Researching Your Vegetable Diseases and Insects." Ray Janes and Howard Potter will tell "How We Plan the 1958 Vegetable Calendar," and Buford Grigsby will consider "Is Weed Control One of Your Problems?" John Knierim will moderate a panel suggesting what to do about nematodes.

The second day will open with James Butcher, who will describe the work of the forest entomologist. Three men, Robert Fulton, Robert Haines and Donald Cation, will report on "Research on Pesticides for Use on Fruit." Ed Klos and Al Dowdy will talk about the "1958 Fruit Calendar," and Art Mitchell, about "Fruit Quality and the Cost of Spraying."

Four district cooperative extension service horticulture agents will tell about projects and activities in their districts. These speakers will be Karl Bailey, Jerry Mandigo, Lyle Tompkins and Clarence Mullett. Another highlight of the conference will be the annual election and business meeting of the Michigan Insecticide-Fungicide organization. Keith Landsburg, Fennville, is the president.

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$11 billion customers

In a year, SUCCESSFUL FARMING *farm subscribers receive more than eleven billion dollars from farming ...are a rich and important audience ...and your best prospects for fertilizer sales.*

SUCCESSFUL FARMING is selective. It concentrates its circulation among the 44% of top incomed farmers earning 91% of the U.S. cash farm income. These farmers have the best land, and maintain it in the best condition... are constant customers for anything which improves productivity, increases yields and profits.

The average SF farm subscriber has the kind of income which demands the best—exceeded $10,000 annually from farming alone for more than a decade.

Farms of SF farmers are big—and getting bigger. Since 1945, the average SF farm has expanded from 218 acres to 366 acres in 1957—a 68% increase. SF has the highest percentage of on-farm subscribers of any farm magazine. For fertilizer advertisers, SF is the most efficient and productive medium.

SUCCESSFUL FARMING with more than 1,300,000 circulation, delivers influence among its audience which no general medium can match. SF has achieved influence on merit and service — for fifty-five years SF has helped its readers earn more money and live better. Its influence delivers values not shown on the rate card ... adds extra value for fertilizer advertisers!

If you want to know more about SF influence—ask any of your dealers!

For full facts on the market and medium ask the nearest SF office.

MEREDITH PUBLISHING COMPANY, Des Moines ... *with offices in* New York, Chicago, Detroit, Philadelphia, Cleveland, Atlanta, San Francisco, and Los Angeles.

Special Merchandising Section

Better Selling

Marketing News and Features

SHOP TALK

OVER THE COUNTER

By Emmet J. Hoffman
Croplife Marketing Editor

When dealers talk about "liming" to correct soil acidity and planting legumes to "fix" nitrogen from the air, chances are the farmer will know what they are talking about.

But when it comes to the term "pH" as a measure of soil acidity, dealers ought to be cautious, according to a University of Wisconsin survey.

These are some of the findings of Wisconsin farm information specialists who made a survey of farmers' practical knowledge of soils. The findings are of interest to dealers who are in constant contact with farmers.

Communications researchers D. D. Sorenson, R. D. Powers, and B. E. Kearl interviewed 148 farmers in four of the most productive soil areas of Wisconsin to test knowledge of nitrogen fixation, soil characteristics, fertilizer analysis, liming and acidity, and fertilizer requirements.

Some Well Understood

More than 90% of the farmers interviewed understood the practical aspects of inoculation and nitrogen fixation in legumes. On the other hand, only 24% knew how the pH scale for soil acidity worked.

Farmers need more information on fertilizer analysis, too, the research shows.

The composition of a fertilizer is generally described by a set of numbers. For pastures, a fertilizer called 10-10-10 is often used. Other typical fertilizers are 3-12-12 and 0-20-20, and there are many other combinations.

About 60% of the farmers interviewed gave correct answers to questions testing knowledge of what the figures in these analyses mean. Substitution of one kind for another was somewhat better understood, and 93% were aware that high analysis fertilizers are worth more, pound for pound, than those of low analysis.

A group of general soils terms was also in the poorly understood class. Less than 60% of the farmers knew the meaning of such terms as "loam," "loess," and "percent slope."

Knowledge of other soil subjects varied, the researchers found. About 80% knew what nitrogen deficiency in plants looks like, but only 30% could recognize a shortage of potash.

Educational Effect

Formal education had the greatest association with soils knowledge. Farmers with the most education had the best understanding of soils. This was true in any grouping of age, size of farm, or type of farming. But good soils understanding was also associated with heavy farm magazine reading, extension contacts, and participation in farm organizations.

There were a number of factors that had no effect on soils knowledge —age, experience, size and type of farm, geographical location and farm radio listening, for example.

Sorenson, Kearl and Powers also obtained some useful information for farm callers to use.

For example the months of February and March, during which most of the interviews were made, were very favorable for finding farmers at home. Mornings were better than early afternoon. One day of the week seemed as good as another for being able to reach farmers.

Farm visits were easier and the farmers were more cooperative where an introductory letter reached them a few days before the visit.

QUOTE

"So far as we are aware, there have been no instances of chronic poisoning from residues (of insecticides). This speaks well for the caution that has been exercised by regulatory agencies and research and extension workers in federal, state, and industry responsible for the development and recommended use of insecticides."—E. F. Knipling, Entomology Research Division, U.S. Department of Agriculture, as reported in the Newsletter of the Steve Wise Co., Inc., Wichita, Kansas.

Ohio Soils Generally Low in Phosphorus

COLUMBUS, OHIO—The phosphorus level in Ohio soils generally is low, says O. L. Musgrave, Ohio State University extension agronomist and director of the university's soil testing laboratory.

Mr. Musgrave cites a recent summary of more than 31,000 soil tests indicating a phosphorus deficiency in most sections of the state. More than 75% of the samples in many counties, according to the agronomist, tested medium or below in phosphorus.

Illinois Custom Spray Operators Plan Meeting

URBANA, ILL. — New insecticides and herbicides are among the topics to be discussed at the 10th Illinois Custom Spray Operators' School to be held in the Illini Union on the University of Illinois campus Jan. 23-24.

The program Jan. 23 features weed control in soybeans and sorghum insects and their control. Other topics will include new herbicides and insecticides, control of Canada thistle and new developments in stored grain insect control.

The Jan. 24 program will feature effects of foxtail on corn and soybean yields, new control measures for Johnson grass and control of weeds in corn. Gravity flow for liquid fertilizer application, red-top weevil research, reasons for failure of herbicide treatments, liquid fertilizers and alfalfa seed treatments will also be discussed.

Marketing Your Fertilizers

EDITOR'S NOTE

Four points which are considered by the author of the accompanying article as very important in organizing and managing a good fertilizer marketing program are: (1) Know the product, (2) get acquainted with the customer's needs, (3) analyze the demand, and (4) organize the sales program. This article is the text of a talk on marketing which was given by Dr. Sharp at the recent National Fertilizer Solutions Assn. meeting at Cincinnati. (Croplife, Nov. 25, page 1). Dr. Sharp is associate professor, department of agricultural economics, Ohio State University.

By JOHN W. SHARP

The operators of a fertilizer solutions business—because of the comparatively small size of their operations—usually perform most of their own marketing functions. The demands of this management of the post-war years in the U.S., especially in small business, have rapidly produced a new concept of the word manager. Today's manager must be a first rate generalist, able to do many things well, and above all, be prepared to plan for his business, make rapid and clear-cut decisions and evaluate and control the outcome of those decisions.

The management of the various phases of any business may be divided into three distinct functions. These three functions of management are planning, direction and control.

For example, managerial direction requires coordination of all the activities and inputs in a business, so that coordination is an important part of the direction of management. Expediting production, sales, and other activities in the business is one of the important reasons for managerial control. So managerial planning, managerial direction, and managerial control really constitute the three basic functions of management. Sales management involves all three of these functions.

Managerial planning is done to determine how to best achieve desired results. It involves, first of all, the consideration of alternative possible courses of action and weighing of the advantages and disadvantages of each alternative. Most managerial decisions ultimately involve human judgment, but sound judgment requires careful collection of all relevant information concerning each possible alternative—ordering and sorting this information and then evaluating it in terms of the desired results. Managerial direction function as related to your fertilizer business is probably less important, as generally this involves the control and direction of personnel. The amount of personnel and direction involved in your business naturally will depend upon the size of your business. Managerial control is a supervisory aspect of management of any business. It is through control that management has assurance that its plans are being carried out and that its direction is being utilized. This business of management then is not a choice of various alternatives of the "guess work" type of planning. It is very important that you have definite courses of action that will yield you the best results. Planning is of the essence.

I have outlined four different points which I think are very important in organizing and managing a good marketing program. The first of these is "knowing your product." Second is "getting acquainted with your customers' needs." Third is "analyzing your demand." And fourth and finally, and probably the most important, is "organizing your sales program."

Know the Product

The job of knowing your product is not an easy one. First of all, you must be completely sold on the product you are selling yourself. For how can you expect to sell anyone else if you do not have confidence and faith in the product yourself? You should know the facts concerned in the historical development of your product that brought about its first use, how your product fits into the entire picture, its costs, its limitations, and new developments that your product has experienced in the past, and the plans of your product for the future. It is important to have more than verbal confidence in your particular product.

The farmer has been conditioned and is readily willing to accept any reliable authoritative experimental work that has shown success of your product.

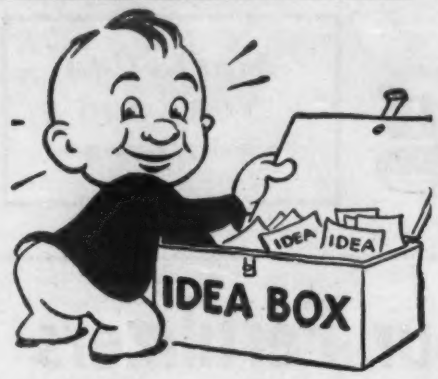
Look to your wholesalers, suppliers, experiment stations, or other reliable experimental sources for more information that will give you the tools to back up these statements.

Don't rely on the farmer to gather "hearsay" information on your product. Liquid fertilizer is relatively new, and many times misleading information is easily made available on new products. Limitations are more likely to become of the critical nature in a community and will work decidedly as a disadvantage unless you are able to cope with the situation first hand. Be frank and honest with your prospective customer as to application costs, the problems involved in handling, the care, the advantages and limitations. He will respect you for this information. An informed customer is more likely to be the best satisfied customer. This type of approach more often instills good confidence into your customer or potential customer.

Know Customers' Needs

Secondly, it is very important that you "get acquainted with your customers' needs." This may be more difficult than it seems on the surface because many a farmer is not always aware of his needs himself. He may

(Continued on page 18)



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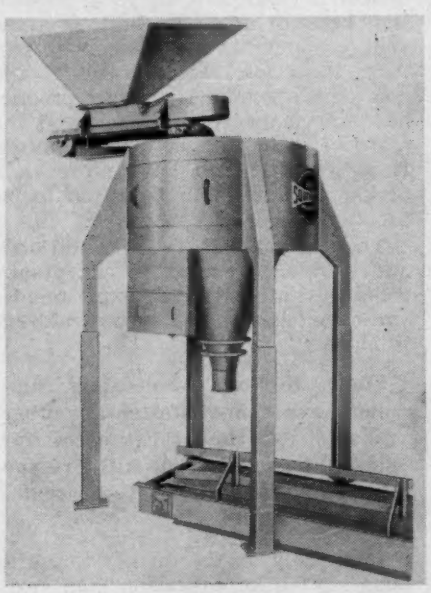
You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

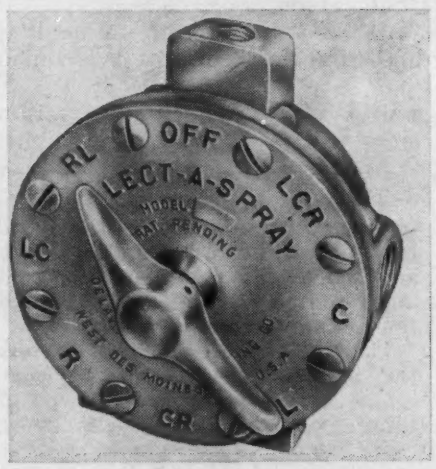
No. 6674—Bag Packer

The Chase Bag Co. is distributing a new bagging unit for the fertilizer industry. It is called the "Southland Packer" and it is described as a completely automatic, all-electric device for filling and weighing open mouth textile or multiwall paper bags. It is manufactured by the Chattanooga Boiler & Tank Co. and is distributed exclusively by Chase. It is claimed that the unit will handle 50-, 80- and 100-lb. multiwall paper bags at 25 bags per minute as a typical working speed. Sustained high accuracy of weights over an extended run is guaranteed. Fertilizer and any other granular or free flowing material can be packed. Chase officials state: "Minimum change-over time from one analysis to another is an outstanding feature." Cylindrical hoppers and buckets allow a clean and complete flow of material. Simplicity of design reduces maintenance costs and problems. Parts are standardized and can easily be interchanged in plants where more than one packer is in use. No air or hydraulic fittings are used. The packer is made from 12 gauge or heavier steel plate and requires no external bracing for rigidity. The feeder is of the continuous operating type, using a ½ h.p. gear-enclosed motor to operate its endless belt, over 8 in. self-cleaning pulleys. Check No. 6674 and print the necessary information on the coupon and mail it to Croplife to secure details.



No. 6675—Boom Control Valve

A new series of boom control valves has been added to the Delavan line of agricultural sprayer products, announces the Delavan Manufacturing Co. The valve will be called the 5600 series. The valve incorporates the features available in the 2800 series plus a ⅜ in. accessory or hand gun outlet. The 5600 series is available with ¼ in., ⅜ in., ½ in., and ¾ in. inlet and bypass openings. The available outlet sizes are ⅜ in. and ¼ in. Each valve is provided with a ¼ in. gauge outlet. It is constructed of die-cast aluminum and stainless steel. Internal seals of the 5600 valve are a combination of stainless steel and a plastic material resistant to the corrosive effects of agricultural chemicals, it is claimed. Check No. 6675 on the coupon and mail it to Croplife to secure details. Please print name and address.



No. 6673—Rat and Mouse Bait

Information about a new rat and mouse bait, called by the trade name, "Diphacin," has been released by the producer, Niagara Chemical Division. The company states that an advertising program embracing newspapers, farm papers and radio is backing up a promotion for the product at the dealer and distributor level. The product is vacuum packed in a can which becomes a self-feeder. Diphacin contains a toxic chemical which is an active anti-coagulant. Check No. 6673 on the coupon and mail it to secure details.

No. 5909—Bulk Storage System

The Butler Manufacturing Co. has available details of its bulk storage system for all free flowing dry granular materials. The company's bulk tanks are available in sizes from 2.1 to 34.8 ton capacities. The all-steel tanks can be served by different types of conveying equipment that includes augers, buckets, elevators, belt conveyors and pneumatic fillers. Check No. 5909 on the coupon and mail it to this publication. Please print or type name and address..

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 6667—Hydraulic Drum Lift

The Sterling, Fleischman Co. announces the production of its new model CP-1 hydraulic drum lift for controlled pouring. Company officials say that the unit's gear reducer control device is completely enclosed and assures self-locking and absolute control at any pouring angle. The unit is designed to handle 55-gal. drums and can be adapted to handle other sizes in steel or fibre drums on special order. The lifting capacity is 750 lb. and the lifting height is 70 in. Check No. 6667 on the coupon to secure details.

No. 6662—Rotary Valves

Rotary valve literature describing Day style "A" rotary valves has been announced by the Day Co. The bulletin describes the various applications for the company's valves, types available and illustrates actual installations, complete with dimensions, specifications and capacities. To secure a copy check No. 6662 and mail it to this publication.

No. 6669—Fertilizer Placement

A booklet entitled "Fertilizer Placement" has been issued by the American Potash Institute. Institute officials say "the latest efficient methods of placing fertilizer for row crops are discussed for busy agricultural workers in the new 40-page booklet." Four authorities wrote the major articles. The four men are Dr. S. L. Tisdale, National Plant Food Institute; Dr. A. J. Ohlrogge, Purdue University; Dr. D. P. Satchell, Pennsylvania State University; and Dr. R. L. Cook, Michigan State University. The booklet is available without charge. Check No. 6669 on the coupon and mail it to Croplife. Please print name and address.

No. 6664—Copper Sulphate

The Republic Chemical Corp. has prepared a brochure on "Copper Sulphate" which describes in detail the method used to produce Copper Sulphate in a modern plant. It gives statistics as to quantities used in industry, agriculture and export. It describes the various grades produced, such as large crystals, medium crystals, granular, snow and micro-pulverized, free-flowing, noncaking instant powder. Detailed specifications and uses are listed. Secure details by checking No. 6664 on the coupon and mailing it to Croplife.

No. 6671—Trigger Valve

A new trigger valve has been announced by the Spraying Systems Co. for use with turn-handle type spray guns. Positive shut-off is provided for pressures up to 800 psi. Named the No. 46 trigger valve, the unit has these features: "The valve assembly is a heavy duty unit, employing packing and packing nut for a leakproof seal. The large trigger handle, formed to give comfortable full hand grip, is made of plated steel for strength

Send me information on the items marked:

☐ No. 5875—Belting Catalog	☐ No. 6668—Products Catalog
☐ No. 5898—Portable Scale	☐ No. 6669—Fertilizer Placement
☐ No. 5909—Bulk System	☐ No. 6670—Equipment Bulletin
☐ No. 6662—Rotary Valves	☐ No. 6671—Trigger Valve
☐ No. 6664—Copper Sulphate	☐ No. 6672—Materials Handling
☐ No. 6665—Package Design	☐ No. 6673—Rat, Mouse Bait
☐ No. 6666—Floor Stand	☐ No. 6674—Bag Packer
☐ No. 6667—Drum Lift	☐ No. 6675—Valve

(PLEASE PRINT OR TYPE)

NAME .....

COMPANY .....

ADDRESS .....

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS
PERMIT No. 2
(Sec. 34.9, P. L. & R.)
MINNEAPOLIS, MINN.

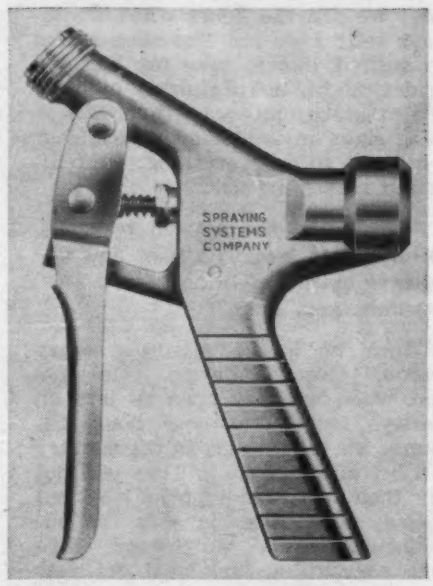
BUSINESS REPLY ENVELOPE
No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Croplife

P. O. Box 67

Reader Service Dept. Minneapolis 1, Minn.



and long lasting service. A heavy duty trigger lock for spraying in open position is locked by a touch of the index finger . . . and releases as soon as the trigger is pressed." The valve is also supplied with adapters for directly connecting nozzles and extensions to make a spray gun. For details check No. 6671 on the coupon and mail it to Croplife.

No. 6665—Package Design

Newly designed packages are being used by the Diamond Alkali Co. for packing and shipping its agricultural and industrial chemicals. Shown are the 5-gal. metal drums containing the company's Premium Brand Grain

Fumigant. The design features a trademark adopted earlier this year in a standard contrasting color combination of regal red and black. The company's line of more than 100 chemicals in packages is now identified with the new design. Secure details by checking No. 6665 on the coupon and mailing it to this publication.

No. 6668—Products Catalog

Publication of the 1957-58 edition of its general products catalog is announced by the Dow Chemical Co. The revision includes latest information on properties and uses of some 375 of Dow's basic agricultural, industrial and pharmaceutical chemicals. The 38-page edition includes descriptive information on principal product groups. Detailed information is given in tabular form for quick, easy reference. A copy may be obtained by checking No. 6668 on the coupon and mailing it to Croplife. Please print or type name and address.

No. 6666—Floor Stand

A floor stand with customer access from four sides has been created by the Container Corporation of America for Swift & Company's plant food division. The merchandiser occupies a floor space of 2 ft. by 2 ft. and provides 16 sq. ft. of shelf facing and 8 sq. ft. for advertising and merchandising messages. Construction is a combination of corrugated board and spiral wound tubes. Company officials say that the unit can be set up in five minutes. The unit holds seven cases of Swift's garden supplies. Check No. 6666 on the coupon and mail it to secure details.

No. 5898—Portable Vehicle Scales

Details and specifications of a line of portable vehicle scales in capacities to 70 tons and lengths of 60 ft. are available from the Howe Scale Co., subsidiary of Safety Industries, Inc. Company officials say that additional scale sections can be joined for greater length and capacity; this operation requires nine standard bolts. No pit is required. Many weight record devices may be used with the scales, it is claimed. Secure details by checking No. 5898 on the coupon and mailing it to this publication. Please print name and address.

No. 5875—Belting Catalog

A new catalog has been issued by Extremultus, Inc., manufacturer of power transmission belting made of polymer and chrome tanned leather. The catalog contains sections on significant applications, a description of the belt, selection of the proper belt type, tensioning and maintenance, and bearing load reduction. A free copy may be obtained by checking No. 5875 on the coupon and mailing it to this publication.

No. 6670—Equipment Bulletin

General Metals, Inc., has prepared a new bulletin (201) listing information about its facilities, products, personnel and other general information. The company makes a line of equipment for handling liquid fertilizers, from storage tanks to field applicators, as well as many other lines of equipment such as conveyors, industrial trucks, tanks of steel, aluminum or stainless steel, duct work, ventilators, etc. The bulletin may be secured by checking No. 6670 on the coupon and mailing it to Croplife. Please print or type name and address.

No. 6672—Materials Handling Survey

Illustrated literature outlining details of a materials handling survey has been prepared by the Towmotor Corp. The literature describes in detail the system in which "expendable" cardboard pallets are employed in combination with hydraulically-operated "Side Shifter TowLoader" attachments. The literature is labeled "Certified Survey No. 179." The reader may secure the report by checking No. 6672 on the coupon and mailing it to Croplife.

Croplife *Want Ads . . . Get Results*

QUALITY *in* PRODUCT *in* SERVICE

PELLEFORM

Pelleform is the modern fertilizer developed for more efficient crop production. It flows mechanically better, flows smoothly and is dustless. Pelleform pellets are uniform for even distribution without waste or burn.

HIGH ANALYSIS

Smith-Douglass new higher analysis fertilizer means more plant food units per bag . . . per ton. For example, a 50-pound bag of 6-24-24 Pelleform has more plant food than an 80-pound bag of lower analysis 3-12-12.

TRIPLE ACTING

Smith-Douglass Pelleform . . .
STARTS FASTER . . . Contains more water soluble phosphate.
FEEDS STEADY . . . Releases plant food steadily throughout the growing season.
LASTS LONGER . . . Contains leach-resistant nitrogen allowing the crop to feed longer.

27 GRAN

A NEW fertilizer, 27 GRAN (granular 27% superphosphate) has just been introduced by Smith-Douglass. Its advantages are ease of handling, no dust, no build-up in bulk type spreaders, better distribution, more stabilized form of phosphorus in the soil, and more economical to use.

Smith-Douglass Dealers sell Quality . . . in product . . . in service. Both are outstanding! In the research and production of fine fertilizers . . . Smith-Douglass *is* outstanding. Smith-Douglass leaves nothing to chance in controlling quality in each step of its manufacturing processes. Every fertilizer bearing the S-D trademark is formulated specifically . . . a perfect balance of the finest materials. And Smith-Douglass means service! Smith-Douglass guides their dealers through long experience and thorough study of local soils, crops and fertility requirements, helping them to better service farmers in their area. Smith-Douglass dealers realize good earnings because they have more to sell . . . quality, new higher analysis fertilizers, service and results. Let us show you good proof that Smith-Douglass fertilizers are the farmers' "Best Buy" . . . and the dealers too.

SD SMITH-DOUGLASS FERTILIZERS

SMITH-DOUGLASS CO., INC.

Contact—Box 457, Streator, Illinois/ Box 850, Albert Lea, Minnesota

Sign of Service and Dependability

Doing Business With

Oscar & Pat

By AL P. NELSON
Croplife Special Writer

When Oscar came home that evening, he was very grumpy, and his wife Minnie knew it. There was something about Oscar's grumpiness that was electric; it went right through the air and you felt it. Minnie had felt it for years. Sometimes she wondered if there had ever been a time when she didn't feel it.

Oscar grunted a greeting as he took off his fur cap and his red mackinaw and hung them up. Then he took a copy of Croplife from his pocket, sat down in an old rocker and began to read.

"Oscar," said Minnie, "the boiled pigs' knuckles are about done. Are you ready to eat now?"

Oscar said nothing, his head still buried in the Croplife magazine. Worriedly Minnie looked at him for a moment, then decided to take the pigs' knuckles out of the pan and serve them. From habit, she took along a big covering pan as she brought the huge platter to the dining table.

For a moment she stood looking at her husband, after she placed the platter and cover on the table. "Oscar," she said finally. "Is anything wrong?"

This apparently was the question Oscar had been waiting for. "Is anything wrong?" he suddenly shouted getting to his feet, his face reddish purple. "Everything is wrong, ach, and all on account of that crazy Pat. The next time I have a chance to sell out. I will."

"The fertilizer business must be good," Minnie suggested. "That's why nobody wants to sell out, maybe."

"It is not a goot business when you have a dumbkopf partner like I got. He spends money like a drunken sailor. If he ever got out of work, he would have to wash dishes in a restaurant for his meals inside of one week," Oscar spurted.

"You'd better eat!" Minnie said, trying to divert his attention from his troubles. "The pigs' knuckles are getting cold."

Oscar started to pace the floor, his pudgy hands behind his back. "Always he tries something new and foolish. Do you know what he wants to do now?"

He glared at Minnie as if she were the offending partner, and she shrank slightly from his impassioned gaze. "N—no, I don't."

"Now he wants to sell fertilizer at a discount one night a week," Oscar stated. "On Friday nights until midnight. He wants to give a half a per cent extra discount every hour from 6 until midnight for farmers that put in orders for fertilizer during those hours."

"Oh!"

Oscar snorted. "We are already giving a 5% discount now, and if farmers wait until midnight Friday night, they'll get an extra 3%, and a gift of some kind. How foolish can that Irisher get?"

"Maybe he figures people will come and buy fertilizer just to get that extra discount," Minnie suggested. "You know how we go miles and miles just to get the best bargains. You make me walk three blocks past the A. & P. just to get stale bread from that stale store."

"That is different" Oscar roared. "They sell stales all year aroundt at reduced prices. But when we keep open until midnight every Friday just to sell fertilizer at a discount that is crazy, just crazy! Our overheadt goes up, too."

"Oscar, your pigs' knuckles," began Minnie.

"And then that Irisher, he says I can stay up until midnight one Friday to take orders und he will stay up the next Friday night," roared her husband. "Why can't we sell fertilizer daytimes like other people do? Why can't we sell the hours when we always sell? I do not like such mixed up stuff. I like to take my bath on Friday night, not Saturday night. I like to eat my meals on time. Everything right on time. And that Irisher—he tries to do everything different. Ach, it makes me sick."

"Maybe he has a good reason," Minnie said wearily. "You and he always have something to eat. The business gets along."

"Sure, he was a reason, a crazy reason," Oscar bellowed. "He says that when we stay open so late on Fridays and offer those hour discounts, all the farmers in the country will be talkin' about it. They will not buy their fertilizer anyplace else but at our store. Ach, he says the advertising will be worth the extra time we put in, and we'll get new customers, too, and sell more fertilizer. Showmanship, that dumbkopf calls it. I always knew he was a showoff. Und this proves it."

A sudden light came into Oscar's face, and an expression almost akin to joy spread through his eyes. "Minnie," he said, "ach, I know what I can do. Get the dandelion wine. I will celebrate this idea while I eat."

Excited, glad to see her spouse suddenly happy, Minnie hurried to get the dandelion wine. She poured a glass for Oscar, who raised it high and downed a quarter of it. Then he smacked his lips. "Minnie," he announced, "I will put that Irisher on the spot."

"You will? How?"

Oscar took another sip of wine. "I will put an adt in Croplife," he said. "I will say that a very good businessman who is sick und tired of being in business with a dumbkopf would like to trade his interest for sole ownership of a good fertilizer business someplace else. And that I will even pay extra cash if the other business is a goot one."

"B—but," put in Minnie timidly, "if you say you have a dumbkopf partner, nobody will answer that ad. They do not want such a partner either."

Oscar looked surprised. He frowned. "Yah, that is right. Well, we will take out the word dumbkopf. Let the other fellow find that out for himself. It will not take long. Minnie, you can have a little wine, too, and pour me some more. We will show that Irisher."

ALFALFA APHID

LAFAYETTE, IND. — The spotted alfalfa aphid did no economic damage in Indiana in 1957, according to M. Curtis Wilson, Purdue University entomologist. The insect made its first appearance in Indiana in 1956, but did not survive the state's cold winter of 1957, Mr. Wilson said. However, it over-wintered farther south and migrated north and east into Indiana last August.

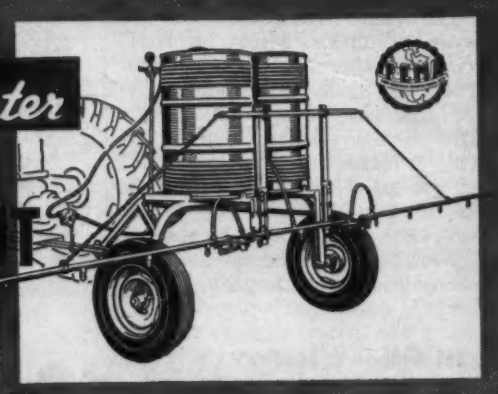
Naugatuck Agricultural Chemicals

product	application	advantages
Aramite miticide	controls mites on citrus and deciduous fruits, cotton, other row crops, ornamentals and vine crops. Also controls poultry mites.	non-hazardous, low cost per acre, highly compatible, harmless to natural predators.
Spergon® seed protectant	controls soil fungi and storage insects (with DDT) on most crop and vegetable seeds.	effective at economical dosages, safe on seed, easy to use, compatible with most other chemicals including legume inoculants, low cost.
Phygon®-XL fungicide	controls fungus diseases on fruit trees and row crops.	extremely low cost per acre, easy to apply, compatible, harmless to pollen and bees.
MH growth retardant and herbicide	inhibits grass growth: controls wild onions and quack grass; prevents tobacco suckering. Preharvest application prevents destructive storage sprouting of edible onions and potatoes.	extremely safe on plants; easy to apply: in wild onion control, one spray lasts up to 3 years.
Alanap® pre-emergence weed killer	pre-emergence weed-control for vine, row crops; asparagus and nursery stock. Available commercially for use on vine crops; also soybeans.	safe on recommended crops, relatively nontoxic, easy to apply, favorably priced.
Duraset*-20W flower and fruit-setting compound	a fruit-setting chemical for lima beans, legumes, peppers and various tree fruits.	low dosage per acre, easily applied as a foliage spray.

*U. S. PAT. 2,556,665

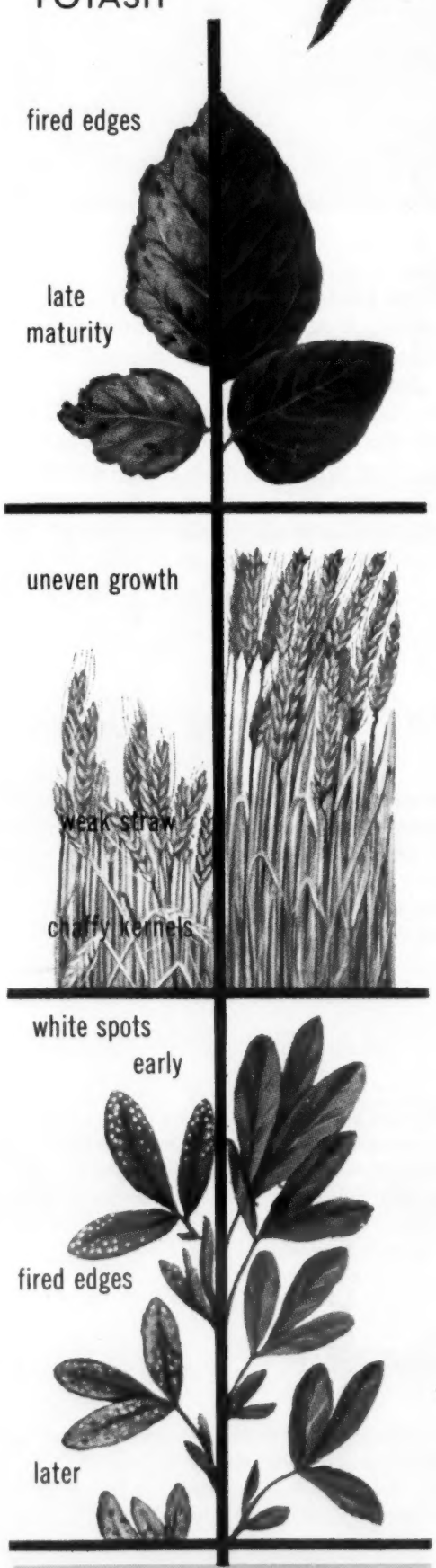
US RUBBER **United States Rubber**
Naugatuck Chemical Division
Naugatuck, Connecticut

USE
Field Master
SPRAY EQUIPMENT
for
LOW COST APPLICATION of fertilizer—insecticides—weedicides.



Your biggest low-price sprayer value. High in quality—above the average in performance. Field Master Sprayers available as complete units or as separate kits: Trailer, Boom Assembly, Boomless Kit, Pump Box, Tank, etc. Write for Free Colorful Field Master brochure.

The Broyhill Company — Dakota City, Nebraska



IN THE MIDWEST POTASH GIVES YOU:

HIGHER YIELDS—Potash, in a balanced fertility program, enables Midwestern crops to make better use of moisture, fight off disease better. Potash packs yield-boosting *weight* in corn, beans, grain, and forages.

BETTER QUALITY—Potash-fed crops mature right, weigh heavy, sell for the top dollar. Potash-fed vegetable and fruit crops ship well, and look good.

AMERICAN POTASH INSTITUTE, INC.

This 4-color ad is just one of many aids to help

You Sell More Fertilizer!

see next pages for more

5-20-20 K_2O

Potash is the "anchor man" in a fertilizer analysis—just as it is in building quality and yield in crops. Don't wait for hunger signs. Test soil, find plant food need. Consult your official agricultural adviser.

MEMBER COMPANIES

- American Potash & Chemical Corporation
- Duval Sulphur & Potash Company
- Potash Company of America
- Southwest Potash Corporation
- United States Potash Company Division of United States Borax & Chemical Corporation

TO SELL MORE FER

The American Potash Institu
services and ideas you can

For more than 22 years, the American Potash Institute has helped expand the markets for fertilizers on American farms.

During this period, tonnage of fertilizers purchased by American farmers has made the most dramatic gain in the history of the fertilizer industry (see chart, lower right).

These tonnage gains have been the direct result of an increasing awareness by farmers of the role balanced fertility programs can play in more profitable farming. Many individuals and groups have helped to create and expand this awareness.

The American Potash Institute is proud of having shared in this joint effort. A service organization, it is designed, equipped, always glad to help you expand the demand for balanced plant foods.

Following are descriptions of some of the services available, *right now*, through the Institute. These services can help you sell fertilizer. You are invited to make use of them. Simply mail the coupon at the upper right, or get in touch with the American Potash Institute representative in your area.

REGIONAL FIELD AGRONOMISTS

Practical scientists of stature and long experience *in your area*, these men (to see photos, turn page) are glad to give advice and help in any way they can.

SLIDE SETS

Potash deficiency symptoms, soybean fertilization, alfalfa production—these important stories are clearly told in Potash Institute color slide sets, each with its own accompanying narration. You can use them for dealer or customer meetings. Teachers and agricultural advisers use them for classes and farm meetings.

FERTILIZER DEMONSTRATIONS

In cooperation with official agricultural agencies, Potash Institute staff members help set up field demonstrations, which show farmers the value of correct fertilizer usage.

ADVERTISING

The American Potash Institute carries on an extensive advertising program throughout the United States and Canada. The four-color message on the preceding page is one of the regionalized advertising messages which will appear in major farm magazines this spring and summer. This advertising program *sells fertilizer for you.*

AID TO FARM PRESS, RADIO, TV

Potash Institute staff members work closely with farm magazine editors, radio and television farm directors. Many articles, photos and broadcasts stressing improved soil fertility practices have been originated or aided by Institute agronomists.

MONTHLY MAGAZINE

The American Potash Institute's magazine—*Better Crops with Plant Food*—is read and studied by agricultural leaders. Articles in *Better Crops* are written by authorities in the soil fertility field. Its circulation exceeds 25,000.

MOTION PICTURES

For dealer meetings, customer meetings or showing on local television stations, use a free-loan Potash Institute motion picture. Over 300,000 people see them annually. There are full-color sound pictures on soil testing, deficiency symptoms, tissue tests, and other subjects. Send coupon above, right, for full list and how-to-borrow instructions.

REPRINTS OF SOIL FERTILITY ARTICLES

From 300,000 to 400,000 are distributed annually. These reprints from *Better Crops* go to high school and college classes, and are used by the fertilizer industry as direct-mail or over-the-counter fertilizer educational materials.

RTILIZER

itute offers
n use *today*

MAIL THIS COUPON TODAY!

It will bring you—at no cost—tonnage-building soil fertility facts you can use.

The American Potash Institute, Inc.
1102 Sixteenth St., N.W., Washington 6, D.C.

Gentlemen: Please send me information on the topics checked below:

- ☐ Monthly Magazine, "Better Crops"
- ☐ Reprints of Soil Fertility Articles
- ☐ Wall Posters
- ☐ Abstracts
- ☐ Slide Sets
- ☐ Special Booklets
- ☐ Motion Pictures
- ☐ Regional News Letters

Name _____

Address _____

Town _____ State _____

STUDY THE CHARTS

WALL POSTERS

Potash Institute charts, on nutrient deficiencies, plant food utilization by crops, and other soil fertility topics, have become standard sources of farm knowledge on fertilizers. They are available for your use, for display purposes.

REGIONAL NEWS LETTERS

What's new in soil fertility in your area. A time-saving digest for you, and extra copies are available for your customers.

FELLOWSHIPS, RESEARCH GRANTS

American Potash Institute graduate fellowships and research grants in some 40 states and provinces have helped train a large number of professional agronomists for responsible positions in the fertilizer industry, colleges, experiment stations and the federal government. The research thus sponsored has developed valuable information concerning correct fertilizer usage, leading to higher levels of fertilizer consumption.

ABSTRACTS

A time-saving service. Available on request, abstracts of scientific articles on soil fertility, from journals and bulletins around the world.

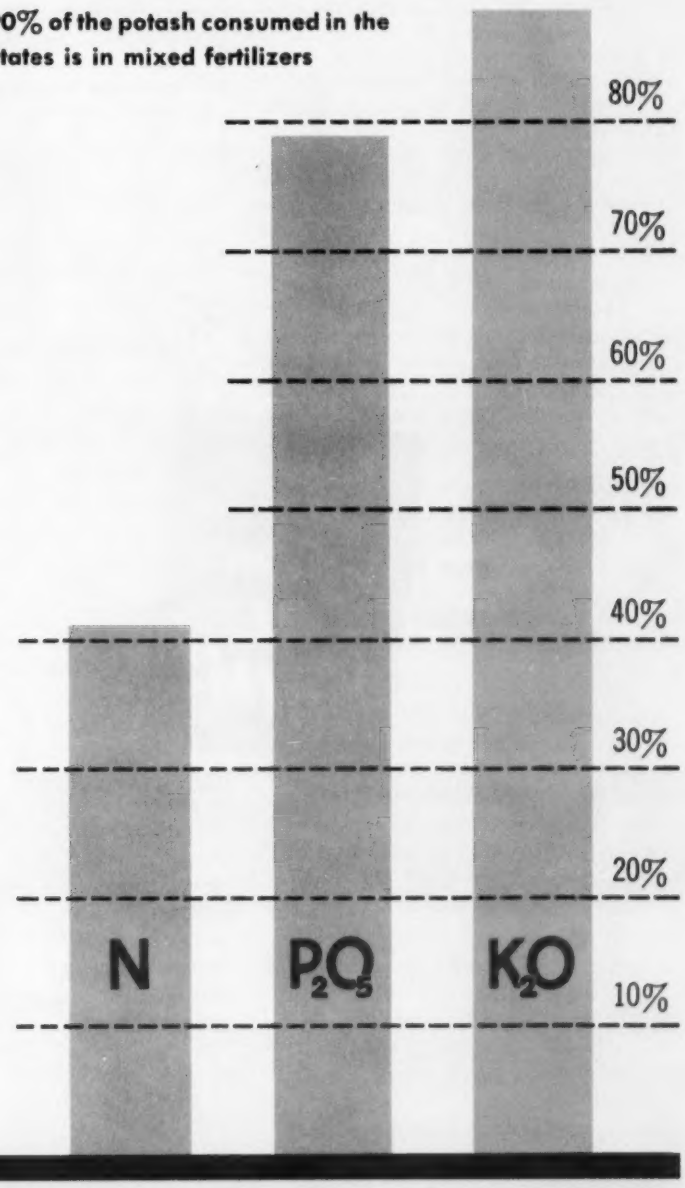
SPECIAL BOOKLETS

The newest: "Fertilizer Placement." Send the coupon (above, right) for your copy, and for copies to give your customers. Forty pages of the latest information on an all-important subject. Other helpful booklets are available, too—just mail the coupon, and a complete listing will be sent you.

RELATIVE CONSUMPTION OF PLANT NUTRIENTS IN MIXED FERTILIZERS

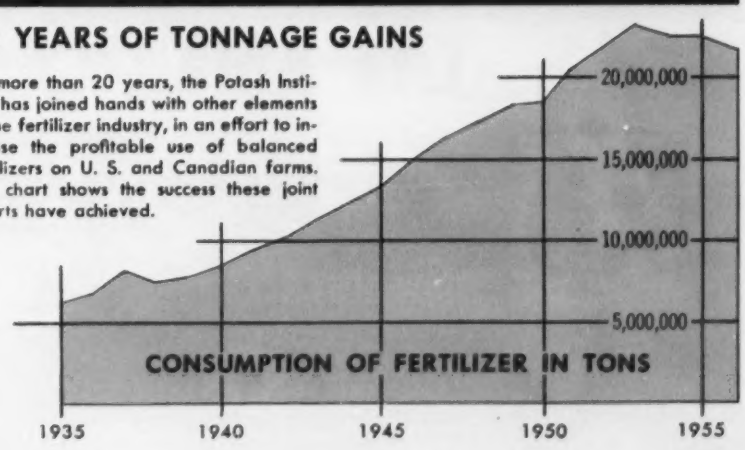
(Source: U. S. Dept. of Agriculture, June 1957)

Nearly 90% of the potash consumed in the United States is in mixed fertilizers



22 YEARS OF TONNAGE GAINS

For more than 20 years, the Potash Institute has joined hands with other elements of the fertilizer industry, in an effort to increase the profitable use of balanced fertilizers on U. S. and Canadian farms. This chart shows the success these joint efforts have achieved.



Serving the Fertilizer Industry

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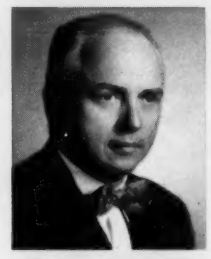

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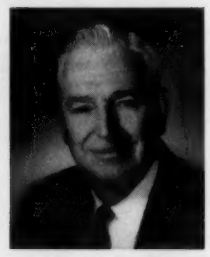

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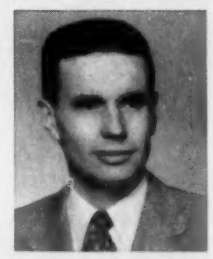

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What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

Industry leaders in both the pesticide and fertilizer trades looked at business prospects for 1958 optimistically. In Croplife's special "outlook" issue, it was predicted that demand for both plant food and pest control materials should pick up during the next season, and some hope was expressed that the price structure would become stronger.

The transportation picture was described as "chaotic", with prospects for increased freight rates appearing strong. Drouth in the midwest being ended, prospects for a better fertilizer season in that area were outlined as being favorable; and a spokesman for the liquid fertilizer industry voiced the opinion that the supply for 1958 may not come up to demand.

The line between supply and demand for potash was described as a thin one, with the world situation being an important factor in which way the line would vary. Prospects are good for increased consumption of potash during the next several years, it was pointed out.

A continuing increase in consumption of fertilizers was heralded by a west coast spokesman who said that each year sees greater amounts of plant food being applied in that area, at the rate of about 5% a year over that of the previous season.

Fertilizer sales in the east, on the other hand, have tended to level off since their peak in 1953. The current economics of dairy farming and the loss of good farmland to highways and urban expansion have cut into fertilizer use significantly in that area, a spokesman said.

The preliminary USDA report on fertilizer consumption for the year ending June 30, 1957 indicated that both tonnage and plant nutrient content were up significantly over the figures of last year. The report said 22,485,000 tons of fertilizer were consumed, an increase of 292,000 tons over the previous year.

Mixed fertilizers fell off 1.4%, but use of materials for direct application increased 6.6%.

Use of materials containing primary nutrients increased in the amount of 328,000 tons, which betters last year's figure by 4.9%. The amount of secondary nutrient materials was 17.6% greater than that used last year.

The key role played by chemicals in the production and protection of cotton was emphasized by speakers at the Beltwide Cotton Production Conference held at Memphis, Tenn. Dec. 12-13. Pesticide leaders pointed out hazards of insect resistance and the expense of introducing new toxicants to control cotton pests.

A fiercely competitive market for anhydrous ammonia was foreseen by attendants at the Agricultural Ammonia Institute held at Little Rock, Ark. Dec. 11-13. At the same time, a future of unlimited possibilities for the industry was also seen by convention speakers, if the agricultural community can achieve greater productivity per dollar of investment. Use of NH_3 can play a key role in realizing this objective, it was brought out.

The decision by USDA in reducing the price support level for dairy products to 75% of parity was seen as a hint that somewhat the same policy may later be used on other crops now being supported at high rates. Ezra Taft Benson, Secretary of Agriculture, regarded the situation with some satisfaction and was enthusiastic about the prospects for eventually eliminating flexible price supports, rigid high price supports and acreage allotments.

A technique for rearing boll weevils without a cotton diet was achieved by Dr. Erma Vanderzant, USDA researcher at Texas A&M College. Her development of a synthetic diet for the insect makes it possible for the first time to study boll weevils reared under controlled conditions in the laboratory.

Reports on control of herbaceous weeds, woody plants, weeds in field and horticultural crops, and brush on rangeland and pastures featured the 14th annual North Central Weed Control Conference held at Des Moines. A turnout of 600 persons was recorded.

Chemical & Pigment Co., Oakland, Cal., has completed a new plant in Oakland for the production of Meteor Brand 36% zinc sulphate.

The reaffirmation that dealers, county agents, demonstrations and soil tests are vital factors in influencing farmers to buy fertilizer was heard at the Minnesota Soils and Fertilizer Short Course.

The battle against the imported fire ant is gaining momentum in the South, claims the U.S. Department of Agriculture.

More labeling rather than less is in the future of the pesticide industry, according to a U.S. Department of Agriculture spokesman at the annual Rutgers University pesticide dealers' conference.

The U.S. Department of Agriculture set an allotment of 38,818,381 acres for the 1958 corn crop in the 932-county commercial corn producing area in 26 states. The 1957-crop corn allotment was 37,288,889 acres.

Six potash producers who in June withdrew from active participation in the activities of the National Plant Food Institute, rejoined the NPFI following a readjustment of the dues structure by the Institute. The moves were made on an individual company basis.

That pesticides are an important part of any successful farm operation, was emphasized at the Ohio Pesticide Institute's meeting in November. Subjects ranged from discussions on residues to the role of gibberellic acid in agriculture.

Speakers at the Eastern Branch of the Entomological Society of America differed in their expressed views of efforts to eradicate the gypsy moth versus merely holding the pest under control. Not only the technical aspects of the problem were discussed, but the public relations side effects as well.

Advertisement

The Bulletin Board

No. 31 in a series from the Spencer Chemical Magazine, "Today's Fertilizer Dealer"

The Spencer Question Box

Edited by

Proctor Gull

Chief Agronomist, Spencer Chemical Co.

"The Question Box" is one of the most popular features of TFD, Spencer Chemical Company's magazine for fertilizer dealers. Questions submitted by dealers are answered by Proctor Gull, head of Spencer's 7-man field agronomy team. Here are a few timely questions and answers from recent issues of TFD.

1. QUESTION: How much fertilizer, and what analysis, should be applied on corn to expect a top yield when the soil test shows an available phosphorus reading of 125 pounds, a potassium reading of 96 pounds, and a low nitrogen reading, with a pH of 6.2?—Robert J. Neely, Bear Creek, Wis.

ANSWER: First of all, a cropping history of this field and soil texture would be most helpful in making a good fertilizer recommendation, but on the basis of the information here. I would recommend the following fertilizer application:

Let's assume we are working for a 100-bushel yield. We know that the grain and stover combined in this case will move from the soil 150 pounds of N, 50 pounds of P_2O_5 and 100 pounds of K_2O. On the basis of your soil test, the soil contains 125 pounds of available P_2O_5 and 96 pounds of K_2O. We will also assume from your soil test that this particular soil would release in a year's time about 50 pounds of available nitrogen.

I would plan on adding the following nutrients—120 pounds of nitrogen per acre, 20 pounds of P_2O_5 and 100 pounds of K_2O. This could be done in the following manner: 100 pounds of 5-20-20 could be applied at planting time with the corn planter and the balance of the nitrogen and potash could be plowed down. This would mean adding 360 pounds of ammonium nitrate and 130 pounds of muriate of potash (60% available K_2O). If the soil is sandy, then I would again recommend side-dressing the nitrogen rather than plowing it down before planting.

As to next year's soil test following this application, I would not expect it to change a great deal. First of all, 100 bushels of corn would remove more phosphate than was applied. It would remove more than half of the potash applied and most of the nitrogen. In fact, the recommendation I gave you might even be a little short on the amount of nitrogen you would actually use up in producing 100 bushels of corn.

2. QUESTION: What percentage of nitrogen is lost if 150 pounds of ammonium nitrate is plowed down in the fall or early spring, and how does this compare to side-dressing?—Fred Darrington, Mabel Coop Creamery, Mabel, Minn.

ANSWER: According to information from the research stations in Minnesota and surrounding states, fall plow-down or spring plow-down of nitrogen on medium or heavy textured soils gives just as good yields as does side-dressing or preplant applications.

For this reason we recommend fall or early spring applications.

On these heavy textured soils, you can figure that none of the nitrogen applied is lost. On sandy soils, nitrogen should be applied as a side-dressing, since the nitrate nitrogen could leach down through the soil profile and be lost in this case.

This would be true of any type of nitrogen used, since, regardless of the form when it is applied, nitrogen in the soil is converted to a nitrate form, which is water soluble and consequently can move with the soil water.

Our recommendations for Minnesota and surrounding states are the same. On medium or heavy-textured soils, plow-down in the fall is an excellent way to apply nitrogen. On sandy soils, side-dress for best results.

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MARKETING FERTILIZERS

(Continued from page 9)

not be "up-to-date" on the latest fertilizer requirements for his particular area. Thus, sometimes soil tests may be an important part of your fertilizer marketing program.

Since the farm business today is becoming a highly complex business that requires a tremendous amount of capital, credit is an important function in the operation of any farm.

In a recent survey on fertilizer marketing in Ohio, we have found that farmers favor a two-season credit policy—whereby the farmer may be able to buy fertilizer for his corn crop in the spring and pay for it in the fall, buy fall fertilizer for his wheat and pay for it in the spring.

Depending upon the type of farmers you have in your community, you may or may not enter into a credit policy. Farmers are discount minded. Discounts have been used to attempt to take the seasonality out of sales and also encourage farmers to seek capital elsewhere when wanting credit on fertilizer.

Ninety-five percent of the farmers interviewed indicated that they would be willing to settle their fertilizer on a cash basis if they could receive a favorable discount on the cash price. If you are unable to provide credit for the farmer, assist him in obtaining a low interest source of capital. This is just plain good business practice, and good business practices lead to good customer business relations. Getting acquainted with your customers' needs throws a responsibility as a fertilizer salesman on your shoulders to be a source of fertilizer information to the farmers in your community.

If there is something new in fertilization, avail yourself to various community organizations and discuss this new type of fertilization on an educational plane. You can work with your 4-H and FFA groups in doing this. Make certain that your sales program is not rigid and can be flexible to accommodate the needs of the various types of customers in your particular community. Each farmer's problems are individual and your business enterprise should be adjusted to accommodate all types of farmers within a particular community.

Analyzing Demand

The third point that I want to stress is "analyzing your demand." This requires considerable research and budgeting on your part to systematically analyze your potential volume for the next year. With these plans you can get sales goals for the coming year. There are many sources of production and statistical information available through your government agencies that can provide most of the information for planning a sales program according to community demands.

Production data of the various crops is available through the U.S. Department of Agriculture statistics giving the acreages produced within your given territory each year. We know that fertilizers are applied on the basis of so many pounds per acre. Thus, this will give you a guide as to the potential. Compare the yields of the various crops in your community with the acreage throughout the state and this will give you an indication as to whether the farmers in your community are following an adequate fertilizer program according to experiment station and university recommendations.

Inquire from the leading farmers in your community along with some of the leading market organizations as to the habits of your farm group for various fertilizer programs, and find out how these programs compare with other communities throughout the state of Ohio. Of course, the ultimate demand for fertilizers of all types within a community would be for all farmers to produce a hundred or more bushels of corn per acre and so forth, and of course this should be in the back of your mind as you set your sales program for the bumper crop.

Another important factor in the fertilizer demand is the type of farmer institution in your particular community. Farm owners are more inclined to follow a soil building program than are farm renters unless the landlord-renter relationship happens to be one of the most desirable type. Transit renter farmers are not generally interested in a soil building program as much as a crop building program.

After you determine the potential demand for your community, look to your competition within the area and estimate the percent of the total sales of your community you can expect for the next year. Outline your sales program accordingly. You have noted that the previous three points, "knowing your product," "getting acquainted with your customer's needs" and "analyzing your demand" all require you as a businessman to do a lot of book work and leg work prior to the actual sales season for your product. After you have determined the above three points then you "organize your sales program."

Organize Sales Program

This involves many things: Sales promotion program, distribution of sales, and the sales methods which you are going to use in contacting your customer during the coming year and how you are going to accomplish the goals you have set for yourself in the above three points.

There are several methods of advertising and planning a promotional program for your product within a particular community. Farmers generally are peculiar in one respect—they generally follow the pattern of the most successful farmer in a community or area. Get this good farmer as a customer, or if it is impossible to sell him, arrange a test plot on his farm so that he, the good farmer, can demonstrate to the others in the community the advantages of your product as compared to another fertility program.

And another important person in your sales program is the younger farmer. The young farmer is more flexible in his thought and his choice of a product he uses. He is constantly looking for something new, and yours is a new product and offers him an opportunity for experimentation a little different than what his father had. His father, on the other hand, may be reluctant to change, due probably to past successful experiences with another fertilizer program. These key people in the community are very

Dr. R. C. Kuder

TO TECHNICAL POST—Dr. Robert C. Kuder, formerly supervisor of polymer research for the Barrett Division of Allied Chemical and Dye Corp., has been appointed as technical director of the Bemis Bro. Bag Co. research laboratory at Minneapolis. The position is newly created as a result of expansion of the Bemis Bro. research program. During World War II Dr. Kuder conducted research work for the Standard Oil Co. of Indiana. After the war he was a professor of chemistry at the University of Dayton.

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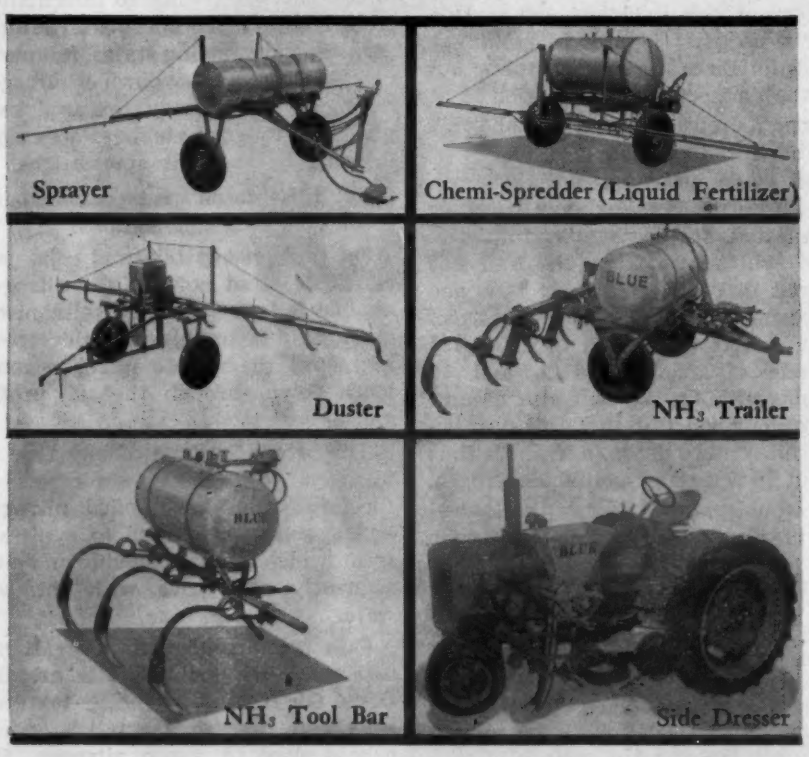

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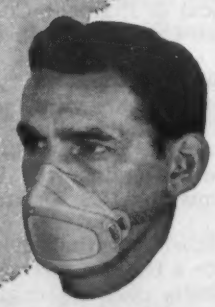

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important guides to a sales promotional program, and these leaders generally influence the decisions of many other people throughout your sales territory.

Also in organizing your sales program, try to eliminate the seasonality of your fertilizer sales as much as possible. This has been one of the great problems in fertilizer sales for years, since most of the heavy deliveries of fertilizer have been made in the spring of the year during the corn season. Selling a fertility program will aid considerably in ironing out the seasonality of your sales. Coordinate your advertising program with your anticipated seasonal sales. Don't let the competing commodities beat you to the punch. Get out and sell your product. Don't just be an order taker.

Do not be discouraged if a particular customer says no. Find out why he does not choose your product, and regroup yourself after you are able to become more acquainted with his particular problems and offer something different than you did previously. Use personal experiences as much as possible in your sales program. Farmers like to be shown that they can make money. Most farmers dislike keeping books to determine whether their adventure has proved successful. They generally like you to introduce them to this particular point prior to the sale.

Repeat sales are the backbone of your business. Show your customer that you are continually interested in him. If he is a new customer you probably took him away from somebody else, and they are constantly trying to do the same to you.

In planning your sales program, there will be a certain amount of capital that you will need to operate your business for the coming year. Try to determine the amount of cash sales you have, credit sales you have, and the relationships that you will need to operate your business successfully for the coming year. If accounts receivable are one of your problems, maybe you should plan your program so that you can minimize the amount of accounts receivable necessary for operating your business.

I once knew an elevator operator that handled his customers in this manner: After the elevator operator wrote the ticket on a sale he would turn to the customer and say, do you want this charged? Of course this left a wonderful opportunity for the customer to say, "Why sure, put it on the books."

Instead the elevator operator should say "That will be $52.47," and hand the customer the bill. Most farmers don't like to ask for credit. They more than likely will just pull their checkbook out and write you a check for your particular sale.

Business has high accounts receivable because the business will induce customers to use this service. In your sales program stay away from selling fertilizers on some sort of a "deal program." The farmer probably knows more fertilizer deals than you can think of in a short period of time that you are able to talk with him, because he's been bombarded by fertilizer deals for years. This is a type of ruinous competition which is difficult for a small business to survive. Fertilizer business is dynamic and there is always something new in the field, and this gives you a sales advantage.

Service All-Important

Remember also, the sole purpose of existence of any business in the community is the service that it renders to customers in meeting their demands for good services. Anytime it fails to service these needs the business is doomed to failure.

Another purpose of your business is to make the total farming operations of the farmer customer more profitable to him. The business is not a real service to the customer unless you can do this.

Your liquid fertilizer program is different from the ordinary traveling salesman, because you are operating a business and you must depend upon serving the same customer over and over again. And you have to do this. Most of your customers know one another and have many opportunities to express their experiences and the attitudes toward your business.

Farmers in your community have a right to expect you as a fertilizer dealer and salesman to maintain a sound business policy for your particular community. This is most reflected in your marketing program, because this is the point where you come in contact with the various people of your community. If you operate a successful business and provide successful and efficient services and a good product, you can look forward to a long tenure in your community and a very successful and rewarding experience in years to come.

Minnesota Demonstrations Show How Proper Rates Of Fertilizer Pay Off

ST. PAUL—How fertilizer applied according to soil test can pay off in increased profits due to higher yields was clearly borne out in a series of field demonstrations during the past two years in the Red River Valley of Minnesota.

In demonstrations on 11 farms, fertilizer on wheat returned an average of $2.71 for each dollar spent for fertilizer. The return was $1.95 for each dollar spent on oats and $1.88 on barley.

These demonstration results are reported by three county extension soils agents from the valley—Curtis Klint, Norman County; Fred Heck, Marshall County; and Ervin Junkans, Otter Tail County. Cooperating farmers in the project worked with county agricultural agents, the three soils agents and extension soils specialists at the University of Minnesota.

Sigvald Tredt, Mahnomen, one of the farmers in the project, found out through a soil test that for oats, his medium heavy type soil needed 10 lb. nitrogen, 40 lb. phosphorus and no potash. That called for a 1-4-0 ratio fertilizer such as 8-32-0 which brought oat yields up to 63.6 bu. per acre. Where Mr. Tredt applied no fertilizer, the oats averaged 33 bu. per acre.

Figuring oats at 60¢ bu., the 30.6 bu. increase amounts to $18.36 per acre. The fertilizer application cost $5.10 per acre, leaving an increase of $13.26 due to the fertilizer.

On a wheat demonstration in Clay County on heavy Fargo type soil, the test showed a need for 40 lb. of nitrogen per acre and only 20 lb. of phosphorus. Treating with this amount of each nutrient gave a 13.2 bu. wheat increase over the non-fertilized plot. With wheat at $2 bu., this was an increase of $26.40 from $7.80 worth of fertilizer.

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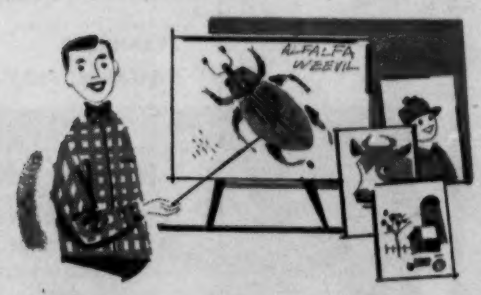

THE 1958 HEPTACHLOR INSECTICIDE DEALER "SALES-BUILDER" PROGRAM — Insecticides can be one of your most profitable items. This point has been proven conclusively by those dealers who actively promote and sell insecticides.

In the coming year, we would like to prove to many more dealers that insecticides can be real money makers. For 1958, we have taken the best features of previous Heptachlor programs, and added new features, based on information obtained in discussions with farm supply dealers everywhere. The result is a unique and completely new type of dealer program . . .

INSECT CONTROL REFRESHER COURSE — We have found that most dealers would appreciate more basic information about the use of insecticides. On the other hand many dealers who are experts themselves must work with inexperienced sales people. Thus, the new Heptachlor program will include an informative "salesmen's insect control refresher course." You and your sales people will be provided with information that will enable you to discuss insecticides more freely with customers. Included in the program will be "down to earth" sales techniques that will enable you to sell insecticides with authority and intelligence.

MONTHLY INSECT CONTROL GUIDE SHEET — Each month you will receive an insect control guide sheet, containing information about crop pests common to your area. These sheets will include insect appearance, life habits, damage, and control. They will serve as a continuing textbook.

MONTHLY INSECT CONTROL INFORMATION SERVICE — NEW PROMOTIONAL AIDS — Current insect control information will be provided on a continuing basis through a monthly newsletter. There will also be many profit-making promotional aids. Participating dealers will receive advance copies to stay ahead of competition.

OTHER IMPORTANT FEATURES — By participating in the Heptachlor program, you will receive a free listing in any Velsicol advertising run in your local areas. Your name will also appear on a reference list of dealers that will be sent to farmers who request the name of a source for Heptachlor formulations.

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WEED OF THE WEEK

Mr. Dealer—Cut out this page for your bulletin board

Witch-weed

(Striga asiatica)

How to Identify

Witchweed is a deceptively pretty plant, with bright green stem and leaves and showy nasturtium-red flowers having yellow centers. Blossoms are shaped somewhat like violets. The weed grows 6 to 12 inches high, sometimes as tall as 18 inches. The plant has multiple branches, both near the ground and also higher on the plant. Leaves are relatively long and narrow, not much wider than the breadth of the stem. Both leaves and stem have a fuzzy appearance.

Growth Characteristics

Witchweed seeds are minute, requiring about 125 laid end to end to measure an inch. Major difficulty in controlling the plant is seen in its ability to produce from 50,000 to 500,000 of these tiny seeds which can be carried by wind and water, and with soil on shoes and wheels to other fields. This is further complicated by the seed's ability to lie in the soil for as long as 20 years waiting for a host. When such a host (corn, sorghum, other crops) is planted, its presence triggers the germination of the waiting parasitic seeds, the rootlets of which reach out and attach themselves to the roots of the host plant. The advance cells of the parasitic root give off a ferment that softens or dissolves the cell walls of the host tissue so that finger-like tubes can penetrate the nutrient pipelines of the host and the parasite lives and grows on the juices thus stolen.

Effect on Host Crops

Since the host plant is robbed of its nourishment, it wilts and takes on the appearance of being drouth-stricken. However, no amount of rainfall brings relief. Transpiration (giving off moisture) of the attacked plant is reduced by about half and the plant suffers a sudden stunting of growth, turns yellow, then brown, and sooner or later dies. So similar is the effect of witchweed to certain diseases, that the real cause of trouble is often not detected immediately. Damage is compounded in subsequent crop years, but since the weed is relatively new in the U.S. where it was first identified in 1956 in the Carolinas, actual losses have not been great. However, losses in grain-growing regions of the Anglo-Egyptian Sudan have run as high as 66%, with losses of a quarter or third of the crop very common.

Control of Witchweed

Comprehensive research efforts are under way to find means of effective control by both chemical and cultural methods. Experience from countries where the weed has existed longer than in the U.S. has been utilized, including tests to find "trap plants" which emit a "host extract" causing witchweed seeds to germinate but are not themselves hosts. Farmers in all areas should be reminded to watch for witchweed symptoms.

Photo of Witchweed taken by Ralph Mills of North Carolina State College visual aids department and used with permission of N.C. State College.

MISSOURI MEETING

(Continued from page 1)

More than 200 persons interested in the Missouri soil fertility industry registered for the two-day meeting. All sessions of the short course, sponsored cooperatively by the College of Agriculture and the Soil Fertility and Plant Nutrition Council of Missouri, were held on the University of Missouri campus.

All of the speakers appearing on the program were members of the University faculty and most were staff members of the soils department.

One of Mr. Wagner's co-workers in the soils department, Ted Fisher, appeared on the program to describe the Missouri soil-testing program. During his talk before the group, Mr. Fisher noted that 102 of Missouri's 114 counties now have soil-testing laboratories.

"The approximately 100,000 soil samples tested annually by these laboratories are an indication of how well the testing program has been accepted by the farmers of the state," he said. "These soil samples represent the annual participation of some 57,000 farmers."

In Missouri, county soil testing programs are closely supervised by the University's Agricultural Experiment Station, Mr. Fisher noted. O. T. Coleman, extension soils specialist, conducts regular conferences with county agents and their technicians to discuss techniques, methods and any other problems that arise in the operation of laboratories.

In his report on the current economic situation, Gordon Nance, University agricultural economist, boosted the spirits of his audience by predicting that the present business recession would be both relatively short and mild.

"Most economists generally believe that the recession will be followed by a much longer period of increasing business activity," Mr. Nance noted. "During such an increase in business the country's economy is expected to reach new highs each successive year."

As for the agricultural outlook for the coming year, the economist predicted that 1958 conditions will be much the same as those of 1957. A new production record, with more or less stationary prices, may produce a higher gross income but costs are expected to rise and wipe out any benefit.

Guest speakers from outside the soils department, in addition to Mr. Nance, included John H. Longwell, dean of the College of Agriculture; J. W. Burch, director of the Agricultural Extension Service; and Herman Betz, professor of mathematics.

Mr. Longwell was the official greeter for the group, Mr. Burch spoke on some of the current problems of agriculture, and Mr. Betz, the speaker at the dinner meeting of the short course, discussed the meaning of atomic radiation as it affects average citizens.

Speakers from the soils department discussed soil fertility research underway at the university and other subject matter topics. Staff members making appearances on the program during the short course were headed by W. A. Albrecht, department chairman, and included George Smith. C. M. Woodruff, John Falloon, Marshall Christy and Alva Preston.

During the business meeting of the Soil Fertility and Plant Nutrition Council, a year-end report on activities was featured as chairmen of the committees on dealer education, membership, programs and awards, youth activities and publications outlined the progress of their groups.

B. B. Mainord, Missouri Farm Bureau Service Co. representative from New Florence, council president, presided during the business meeting.

Victor Sheldon, Olin Mathieson Chemical Corp., St. Louis, reported that the council's dealer education committee had been working with extension soils specialists at the University in arranging a series of dealer meetings later in the winter. Speaking assignments at the meetings will be handled by the specialists and council members, Mr. Sheldon said.

Austin Mount, vice president of the Missouri council and a Davison Chemical Co. representative from Joplin, reported that members were paying dues at a rate indicating that the 1957 membership of approximately 200 persons would be exceeded for the coming year.

Jim Gillie, Phillips Petroleum Co., Kansas City, reported on the newspaper contest the Soil Fertility and Plant Nutrition Council and the Missouri Press Assn. are co-sponsoring. He pointed out that the council is making $500 prize money available for the contest to be concluded in the spring.

The prize money is to be divided on an equal basis between daily and weekly newspapers which, according to a panel of judges, do the best job of reporting soil improvement practices for the coming year.

"Present indications are that about 70% of Missouri's approximately 370 weekly and daily newspapers will take part in the contest," Mr. Gillie said.

Prior to the short course meeting, the council had held its annual meeting in June. However, according to Dick Balser, Spencer Chemical Co. representative from Kansas City and secretary of the organization, the group decided to move its annual meeting date to December.

As a result, Mr. Mainord, Mr. Mount and Mr. Balser will all keep their jobs as council officers until December, 1958. The board of directors, as elected last June, will also hold their jobs for another year.

Directors are Mr. Mainord; Mr. Mount; Mr. Balser; Mr. Gillie; Mr. Sheldon; Tate Sweeny, Darling and Co., Marshall; Frank Hoffman, Hoffman and Reed Farm Supply, Trenton; Robert Weis, Virginia-Carolina Chemical Corp., East St. Louis, Ill.; Jake Jacob, Missouri Plant Food Co., Sikeston; and W. A. Albrecht and John Falloon who represent the College of Agriculture and the Missouri Extension Service.

George Wickstrom, American Potash Institute, Columbia, is chairman of the council's publications committee and edits the "Soil Fertility Builder," the organization's quarterly leaflet.

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ST. PAUL—The 17th annual Minnesota Weed and Seed Inspectors Short Course will be held Jan. 20-24 on the St. Paul campus of the University of Minnesota.

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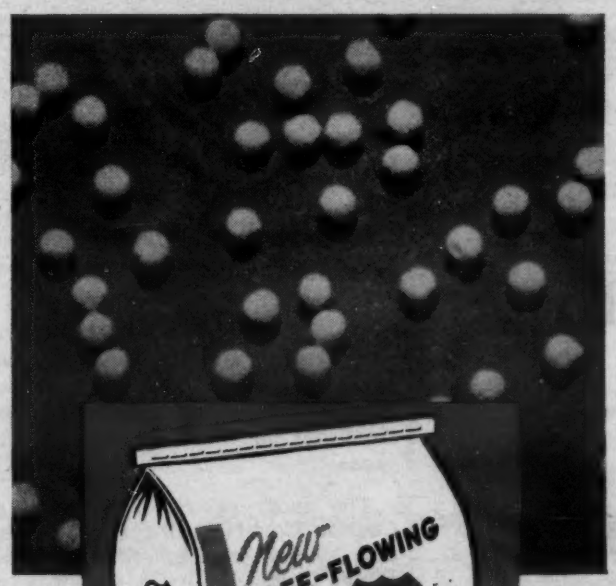

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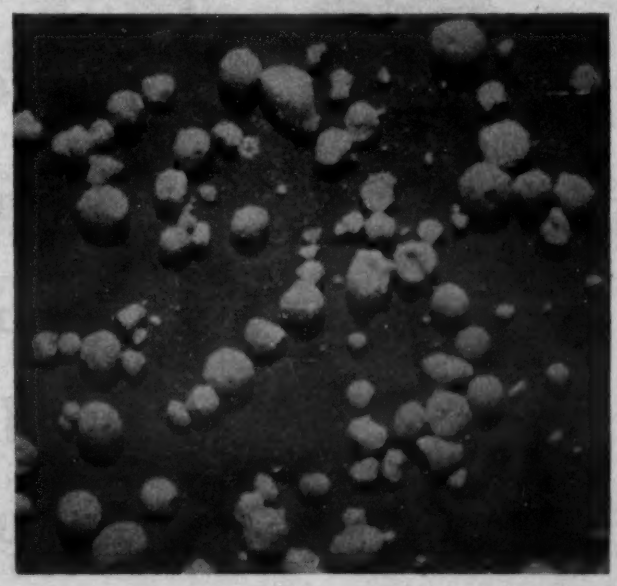

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FARM SERVICE DATA

Extension Station Reports

About one-eighth the amount of lime is being used in Texas as the agricultural authorities say is needed.

Lime serves a fourfold purpose in the soil. It gives the correct soil acidity, furnishes available calcium for plants and animals, increases the efficiency of manures and fertilizers and improves the growth of beneficial soil organisms.

S. L. Neal, Lamar County agent, illustrates the value of lime by citing the experience of J. S. Sharp, a Lamar County farmer. Mr. Sharp discussed with Mr. Neal the possibility of making a pasture on approximately 300 acres of sandy and mixed soils. The land included an old field and woods that were cleared and levelled.

So Mr. Sharp, following the advice of the county agent, took soil samples and followed the recommendations, except that he made a little heavier application of lime than was recommended. He actually applied about 2½ tons per acre. Following the application of lime, 200 lb. of 10-20-10 was applied, and the area was seeded with a mixture which he had resulting from screenings of oats, rye grass, lespedeza (Kobe), and some wheat.

A good growth resulted and the area was grazed consistently for several months. The stock was then taken off. They were later turned back on the area and ate the heads off the grain. Later, there was an excellent stand and growth of lespedeza which was grazed by beef cattle.

With the lespedeza cover on the land, Mr. Sharp plans to put it into the soil bank for five years and continue the treatment. At the end of the five years, he thinks that he can carry 300 head of cows on the 300 acres of pasture that was made from the old field and wooded areas.

★

Grain sorghum is big business to farmers in Arizona and it is big business to the southwestern corn borer, also. This dirty-white worm causes the greatest injury to late-planted sorghums, and sorghum or cornfields that were planted the previous season in sorghum or corn.

During 1957 it attacked both corn and grain sorghum and has also been found in Johnson grass, reports J. N. Roney, extension entomologist for the University of Arizona.

The most severe injury was in Cochise County, but specimens were also found in Greenlee, Graham, Pima, Pinal, Maricopa and Yavapai counties. The little pest seems to prefer corn. Grain sorghum fields adjoining corn never showed more than 1% of the basal stalks infested. However, fields of grain sorghum not near corn were almost 100% infested with the borer larvae.

★

A seven-year-old investment in soil fertility is still paying dividends on J. H. Glasscock's farm near Miller, in Lawrence County, Missouri, according to Ray Graham, county agent.

"Back in 1950, a strip of a cucumber field on Glasscock's farm was fertilized for maximum production," said Mr. Graham. "The remainder of the field was fertilized at a lower rate.

"Now the field is seeded to lespedeza, but the carryover power of that fertilizer treatment is still showing profitable results.

"This past season the strip heavily fertilized in 1950 produced 50% more hay per acre than the rest of the field."

Mr. Graham reports that in the intervening seven years, the entire field has been limed and fertilized at the same rate, but the beneficial effect of the extra plant food added in 1950 is still evident.

In each of the past seven years the strip has outyielded the remainder of the field.

Another advantage is that the heavily fertilized strip has been freer of weeds and the lespedeza has been a darker green than the remainder of the field, Mr. Graham says.

★

Farmers can get a head start on 1958 fertilization plans by taking soil samples now.

Midwestern agronomists report that early winter months are very well suited for getting soil samples. The ground is usually in good condition for testing. And soil testing laboratories can give prompt attention to samples.

Then when the farmer has the results of the soil tests, there is plenty of leeway to get the exact grades and amounts of fertilizer needed to help him produce top yields in 1958.

By using fertilizer early and taking delivery during the winter months,

AAI OFFICERS—Officers of the Agricultural Ammonia Institute are shown above. They were named at the recent annual meeting of the organization. Seated, from left to right, are S. C. Smith, the Smith Co., Uvalde, Texas, first vice president; Paul J. Duesterhaus, Duesterhaus Farm Supply, Quincy, Ill., president; Robert E. Poethig, Bastian-Blessing Co., Chicago, second vice president. Standing are Raymond C. Singletary, Jr., Blakely Peanut Co., Blakely, Ga., secretary; C. J. Struble, Standard Oil of Indiana, Chicago, member executive committee; Fred W. Stewart, Agricultural Chemical Service, Inc., Santa Paula, Calif., retiring president and member of executive committee; and David H. Bradford, Jr., Mid-South Chemical Corp., Memphis, treasurer. A story of the convention appeared on page 1 of the Dec. 23 issue of Croplife.

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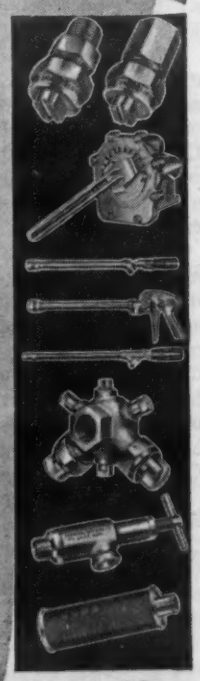

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he can save time and delays when the spring rush season arrives.

Purdue University agronomists list these suggestions for taking accurate soil samples: 1—Pick a soil area that is uniform in color and texture—one that has had similar cropping and fertilizer treatments; 2—Don't mix together light and dark colored soils; 3—Stay away from fertilizer bands in row crops; also avoid field borders and feeding areas.

Accurate soil samples can be a good guide in helping the farmer find out what plant food reserves the soil contains. They can help supply the soil with the nutrients the crops need for high yields and profits.

★

Fertilizer can help produce more protein in each acre of corn and alfalfa, reports Dr. John M. MacGregor, University of Minnesota soils scientist, in a statement summarized by the Middle West Soil Improvement Committee.

The increase in the protein content of corn or alfalfa depends on the nutrients in the fertilizer, says Dr. MacGregor.

When phosphate alone was added to alfalfa, increases were noted in both the percentage of protein and in the yield per acre, he reports.

Phosphate-potash fertilizer boosted alfalfa yields and increased the overall protein content per acre more than did phosphate alone. However, the phosphate alone gave the alfalfa plants a higher percentage of protein than did the phosphate-potash application.

Dr. MacGregor says the phosphate-potash fertilizer produced crops with a higher percentage of protein than crops that received no fertilizer.

In the tests, the soil scientist used different fertilizer treatments on both corn and alfalfa and then analyzed the protein content of the crops.

Adding nitrogen to corn on sandy soils gave more efficient production through higher yields and better quality because of increased protein than when the corn received no nitrogen, Dr. MacGregor says.

★

Midwestern agronomists report that well-fertilized crops need less water to produce higher yields than those grown in unfertilized soil.

In Missouri tests, corn grown in well-fertilized soil needed only a fraction of the water per bushel as was required for corn grown in low-fertility, low-yielding land.

A 79-bu. corn yield used only 5,600 gal. of water per bushel, whereas an 18-bu. yield required 21,000 gal. per bushel.

North Dakota tests showed that although fertilizer increased wheat yields by five bushels, the soil's moisture content at harvest time was about the same in fertilized as in unfertilized soil.

The North Dakota soils men say if there is sufficient moisture to warrant seeding a crop, fertilizer should be used on soil that needs plant nutrients.

Crops usually do better with a high level of plant nutrients, even when moisture shortages are so severe that they cut yields generally, according to these agronomists.

★

Applications of nitrogen in fall or spring—or during both seasons—will increase tall fescue seed production considerably, says George D. Corder, fertility specialist of the Kentucky Agricultural Extension Service.

However, phosphate and potash must be in the soil, too, he said, to balance the nitrogen application, for best results.

Mr. Corder says best results were noted when 30 lb. of nitrogen were applied in late September or October, and 60 lb. in March or early April.

If the fall applications (September or October) were not made, Mr. Corder says, it is best for the farmer to wait until spring and apply about 60 lb. of nitrogen an acre.

★

A Missouri soils specialist says that the size of a farm should be measured in the amount it produces rather than the number of acres it has.

O. T. Coleman, University of Missouri extension soils specialist, says farmers can increase their business volume per acre by using lime and fertilizer to supply nutrients needed by crops for top yields.

"Such a method cuts costs of production to make a greater net income per acre," Mr. Coleman says. Low costs depend on high yields per acre. As yields go up, costs per unit of production tend to go down.

"Fertilizer and lime, properly used, offer the best means of getting the most profitable returns from most farms. And a soil test is the best guide for using fertilizer and lime correctly."

Mr. Coleman says that accurate soil samples are essential to help get profitable results from fertilizer treatments. To be accurate, samples should represent the surface seven inches of each different kind of soil in a field.

Soil samples sent to the testing laboratory should be accompanied by information on all fertilizer treatments applied in recent years and an accurate record of the soil's cropping history, Mr. Coleman says.

CSC DIVIDEND

NEW YORK—A dividend of 17½¢ per share was declared Nov. 25 on the outstanding common stock of Commercial Solvents Corp. payable Dec. 30, 1957, to stockholders of record at the close of business on Dec. 6, 1957.

Study Shows How Weed Crowds Grass in Pastures

STILLWATER, OKLA.—Harry Elwell, Oklahoma State University research agronomist, has gathered some statistics showing the extent to which grass is crowded out by weeds in pastures that are overgrazed.

Mr. Elwell checked broomweed infestation in representative native grass pastures from Grady County to the Osage area. They were pastures where the number of livestock would not have been excessive if the land had produced an average yield of grass.

He found that the broomweed was producing an average of 2,364 lb. of dry matter per acre. An average of only 490 lb. of grass per acre was left. Normally, 500 to 1,000 lb. of grass residue per acre should be left for soil protection.

Pastures not grazed from May 1 to Oct. 15 averaged 2,474 lb. of grass and 537 lb. of weeds, per acre. The figures are dry-weight basis.

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TVA COMMITTEE

(Continued from page 1)

has "been effective in increasing the use of fertilizers and materials." It also found that the program was effective in "increasing the production of lower cost, higher analysis mixed fertilizers," and in introducing new fertilizer materials.

At the same time, the committee found that "although over-all attainment of the educational objectives of the . . . program has been good, its effectiveness could be substantially improved." It said that the "program objectives and regulations should be more completely understood by TVA distributors, dealers, and farmers. Written agreements between distributors and dealers and more complete dealer records of sales of TVA fertilizers to farmers are necessary," the committee report said.

"In some instances, the tonnage of TVA fertilizer sold to an individual farmer has been much larger than can be justified from an educational point of view," the committee noted further. "Some farmers have been sold TVA fertilizers for a greater number of years than educational objectives warrant."

Another conclusion reached by the committee was that within the framework of the present objectives and organizational structure, "the amount of fertilizers distributed under the program has exceeded that which can be justified solely on the basis of education.

"Substantial amounts of TVA fertilizers have been used on row crops in a manner identical with well-established fertilization practices," it was noted. "A few very large farm units have used TVA ammonium nitrate and other TVA materials in quantities far in excess of those which might be called educational uses. Although the fertilizer distributed by TVA is less than 2% of the national production, its unwarranted concentration in certain geographic areas has resulted in extreme competition with certain commercial fertilizer concerns."

The survey also indicated that factors "other than the stated educational objectives have played a determining role in establishing the tonnage of materials distributed under the program." In elaborating on this observation, the committee observed that the TVA was supposed to have geared its fertilizer production to fit educational needs, but "it is evident that production capacity and break-even point have been overriding considerations in establishing the amounts of fertilizer distributed under the distributor demonstration program."

A final conclusion offered by the committee stated: "A few flagrant violations of required program procedures have shaken confidence in the distributor demonstration in some localities and have resulted in justified criticism of the program, especially by certain individuals in the fertilizer industry.

"Some TVA fertilizers have been advertised and sold without reference to the distributor demonstration program or its educational objectives. A few dealers have insisted on the purchase of non-TVA fertilizer by farmers as a basis of eligibility to purchase TVA fertilizers," the committee said.

In view of the findings and conclusions of the committee, the group recommended that the TVA program be changed to the extent that it may conform more nearly to needs of the current situation and the outlook for the farming and fertilizer industries. Here are the ways in which the program might be strengthened and improved, within the currently defined objectives of an educational program, according to the committee:

"1. Qualified farm uses for TVA materials should be clearly of an educational nature and should be defined more rigorously and exactly.

"This step is necessary if the distributor demonstration program is to be justified largely in terms of its educational contributions in the introduction of new materials, in the lessening of plant food costs to farmers, and in increasing the efficiency of fertilizer use. A more precise definition of special uses which are educationally justifiable is an activity which merits an important and an intensified investment of TVA staff time, in cooperation with the Land Grant colleges and extension services.

Although this activity has been conducted continuously in past years, the current situation suggests the need for a more complete and more detailed review of the special-use program.

"2. Educational activities should be evaluated and supported on the basis of their merits in education, without regard to plant production capacity.

"The Committee emphasizes that the educational program should be determined by educational needs at the dealer and farmer levels, and not by capacity or break-even volume of TVA fertilizer production facilities.

"Fiscal and administrative distinction should be made between fertilizer manufactured and used for educational purposes and that manufactured for attaining 'break-even' points, for financing research on materials, or for other purposes.

"3. The pricing policy should be consistent with the educational objectives of the program.

"Procedures should be established which will prevent in all cases, at the dealer or distributor level, any facet of the distributor demonstration program from becoming simply a method of underpricing competition, or for attaining tie-in sales, etc. If TVA should produce fertilizer which falls either outside of, or in addition to, educational objectives defined in the distributor demonstration program, pricing policies in the different programs should be entirely distinct.

"4. Aside from responsibilities in the Tennessee River Watershed, the geographic spread of materials should be extended and the concentration at particular locations should be decreased.

"While TVA materials in total make up only about 1.6% of total industry output, they make up more than 50% of the particular materials used in some areas. Therefore, precise limits should be established to control concentration in particular geographic areas. State quotas should be established for materials distrib-

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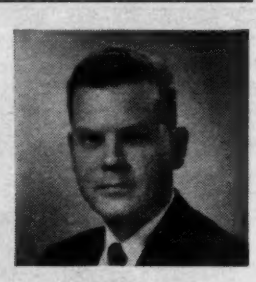
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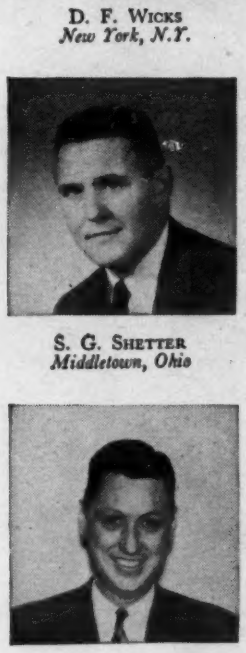
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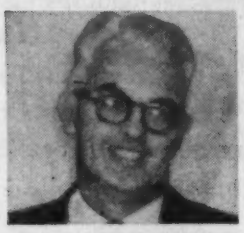
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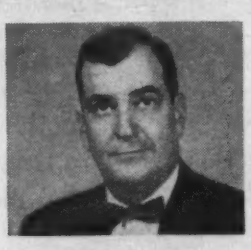
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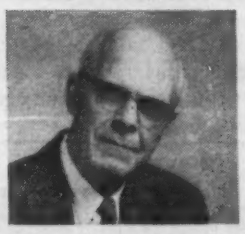
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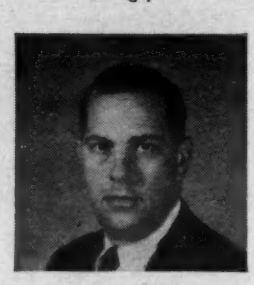
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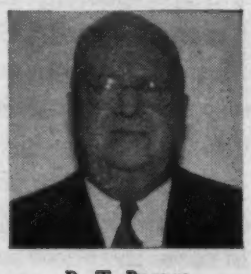
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St. Louis, Mo.

T. B. Athey
Baltimore, Md.

TVA COMMITTEE MEMBERS

KNOXVILLE, TENN. — The committee of eleven members investigating TVA fertilizer activities includes three educational specialists in agricultural economics, statistics, and public administration; four land grant college agronomists; and four representatives of TVA fertilizers. They are:

Earl O. Heady, professor of agricultural economics, Iowa State College, chairman; R. J. Jessen, professor of statistics, Iowa State College; W. R. Parks, professor of public administration, University of Wisconsin; M. D. Weldon, extension agronomist, University of Nebraska; J. C. Lowery, extension agronomist, Alabama Polytechnic Institute; M. B. Russell, head, agronomy department, University of Illinois; N. C. Brady, head, agronomy department, Cornell University; John Sims, consultant, Ohio Farm Bureau Cooperative Assn.; Arthur M. Smith, assistant to the vice president, plant food division of Olin Mathieson Chemical Corp.; Howard Parker, president, Sylacauga Fertilizer Co., and Howard Thullbery, sales manager, Superior Fertilizer & Chemical Co.

uted in the distributor demonstration program.

"A quota might be, for example: TVA materials in quantities which do not exceed 5-10% of the state's consumption of the particular nutrient or 15% of the particular carrier, except when new carriers have been developed by TVA. State consumption would be measured in terms of the most recent three years for which statistics are available. If other bases are used for lessening geographic concentration, they should be in terms of the relative educational needs of individual states.

"5. More exact upper limits should be established for the quantity of TVA materials distributed to individual farmers.

"These limits should be reasonable and should be defined in terms of educational needs of particular states, areas, and farms. They should be set up after consultation with the Land Grant colleges and they should be strictly enforced.

"6. Limits should be established for the length of time for which (1) a newly developed material should be included in the distributor demonstration program, and (2) an individual farmer can obtain fertilizer for a particular special use.

"A suggested time limit is eight years for inclusion of a newly developed material in the distributor demonstration program and three years for a single special use of a particular material on a particular crop by an individual farmer.

"7. All advertising and promotional efforts by distributors and dealers which relate to TVA fertilizers should mention and emphasize both the TVA materials and the special uses for which they qualify.

"This requirement is designed to prevent 'bargain sales' of TVA materials for non-educational uses. It should be closely enforced.

"8. Emphasis on close-growing crops, cover crops, and those grown for soil conservation purposes should be intensified and an increased proportion of TVA materials should be allocated to and used for these crops.

"The use of TVA materials should be encouraged in all areas on close-growing crops, whether they be permanent cover or grown in rotation systems. It is suggested that the fertilization program for these close-growing crops can best be carried out by expanding cooperation with the Land-Grant colleges and various agencies.

"9. TVA should not use fertilizers in the distributor demonstration program which are inferior in quality to those commercially available to the farmer.

"A material with objectionable handling qualities, such as TVA's current ammonium nitrate, should not be distributed under a long-run educational program emphasizing new and improved materials."

In commenting on the findings of the committee, TVA says that maintenance of production at "an exact level to meet educational requirements fully, but no more, is an extremely difficult task. There is also the desirability of maintaining a level of production which will result in no loss to the Government.

"With these considerations in mind, the TVA board has been alert to maintaining reasonable standards with minimum margins. It does not believe that closer adjustments are possible under the circumstances but will re-examine the situation periodically to assure that production levels and requirements of the educational program are consistent. The program has been developed during a period of transition from great scarcity of fertilizers to more plentiful supply, and adjustments have had to be made gradually. But adjustments on a considerable scale have been made.

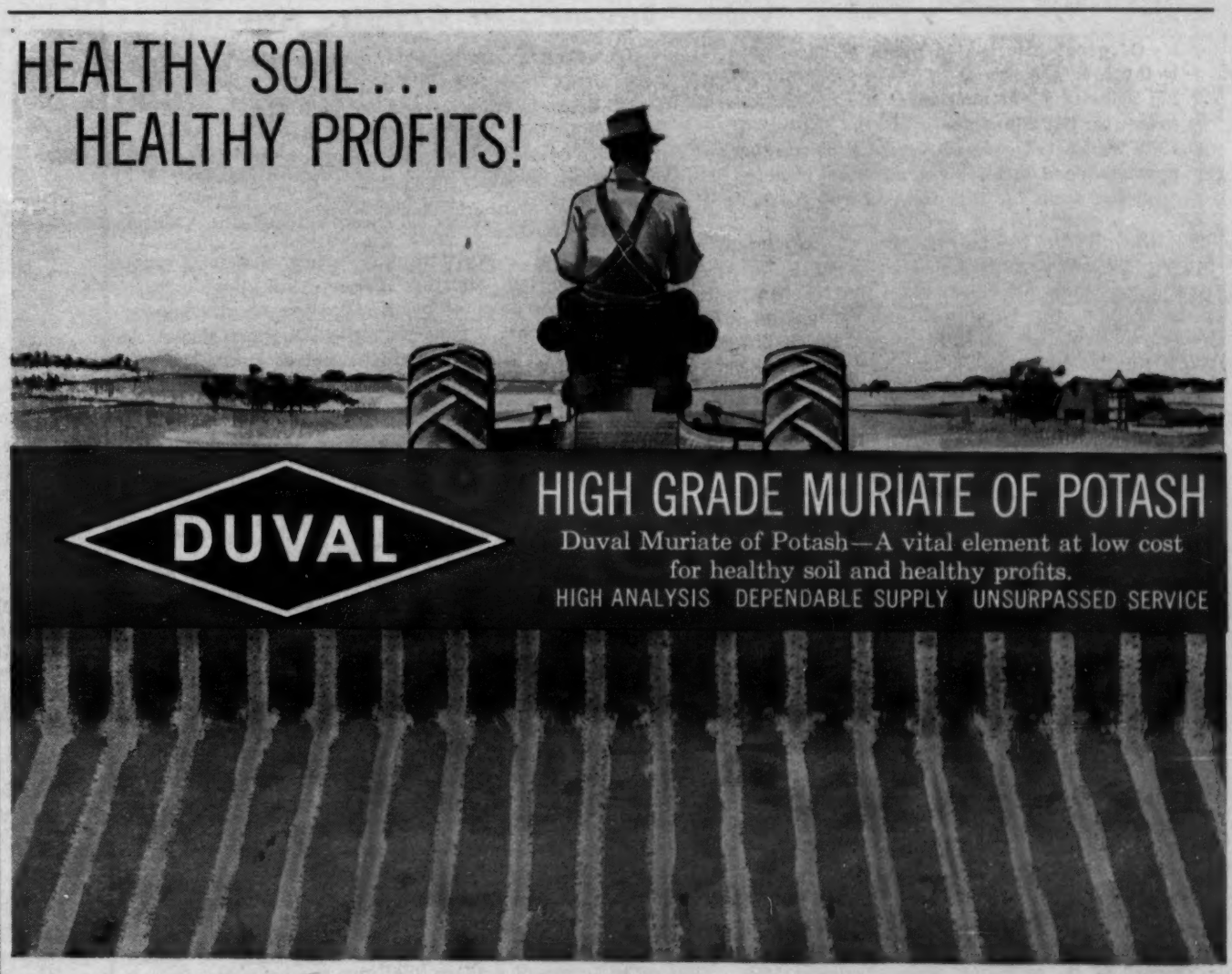
"The total of TVA's allocations of fertilizer to the various distributors each year has been substantially less than the total of the distributors' estimates of their requirements for the program agreed upon.

"In arriving at allocations, the distributors' estimates have been used as a starting point, but adjustments have been made according to the materials available and evaluations of the effectiveness of the program being carried out by each distributor. As supplies of commercial fertilizers have increased over the past several years, TVA production and distribution of the better known and more widely available materials have steadily declined.

"For instance, the current year production of TVA concentrated superphosphate is one-sixth of its 1949 peak; and TVA ammonium nitrate production has declined more than one-third since its 1952 peak. Production capacity and in turn the financial results of the program, of course, need to be considered, but the controlling factor in determining fertilizer production is the amount of fertilizer that can reasonably be used in bona fide educational programs consistent with the objectives of the distributor demonstration program."

NEW PLANT PROPOSED

SEATTLE, WASH. — A report issued by the Institute of Forest Products at the University of Washington here indicates the possibility of a plant at Wenatchee to manufacture a soil conditioner using sawdust and waste organic materials from chickens. The institute plans to make an immediate investigation and possibly start composting experiments in the next month.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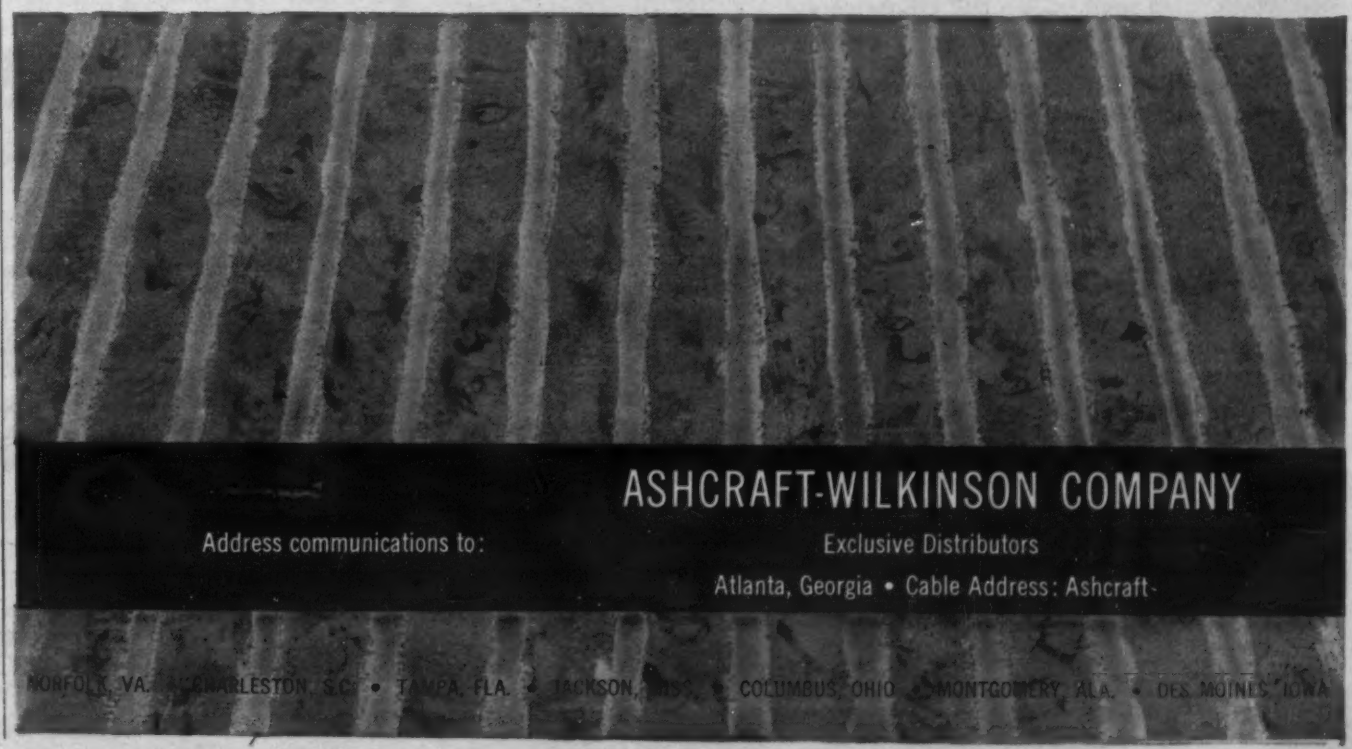
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Croplife®

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Midwestern states.

SIGNIFICANT TREND . . .

Fertilizer Use Report Encourages Industry

High significance might be attached to the preliminary report on fertilizer consumption in the U.S. as compiled by the USDA and published in Croplife last week. Despite many apparent factors against increased over all use of plant food materials, consumption went up in most categories. The total tonnage, 22,485,000 tons was 292,000 tons over the previous year, or a gain of 1.3%.

Of great interest to much of the trade is the increase in use of materials containing primary plant nutrients. The new figure came to 328,000 tons over the figure of 1955-56, an increase of 4.9%. A continuing upward trend in fertilizer analyses is noted as it has been for the past several years.

Although the total of fertilizers bearing primary plant nutrients in 1956-57 was but 21,531,000 tons, some 1,004,000 tons below that of the peak year 1952-53, the total nutrient content of this lower tonnage of fertilizers contained 657,000 more tons of plant nutrients than did the larger tonnage of the peak year.

It is interesting to note the states and regions where tonnages were up, and in others where the use failed to keep pace with those of the previous year. Many factors entered into the picture . . . the soil bank, weather, economics, and the attitude of farmers, and these were of course not all the same in different areas. Thus it is difficult to more than guess at why increases or decreases took place.

Of the six New England states, only Maine showed a percentage decrease in consumption as compared to the 1955-56 year. New Hampshire came up with a 21% increase; Vermont with 10%; Massachusetts with 17%; Rhode Island with 13% and Connecticut with 10%.

The West North Central states showed increases for the most part, although there were some drops in tonnage. Minnesota registered an increase of 13%; Iowa 3%; Nebraska 26%; and North Dakota 34%. The large rise in North Dakota was quite in contrast to a 16% drop in the consumption record of its neighbor, South Dakota. Missouri also experienced a reduction of 1%, and Kansas 2%.

All of the Pacific states registered increases, with Oregon showing a jump of 31% in consumption. Washington went up 7% and California 6%. It should be remembered in the case of California, however, that its 6% gain is based on a much larger tonnage, so the actual amount involved in achieving an increase was considerable.

There was no clear-cut pattern of increase in any specific area of the nation, but there were some interesting figures on how particular materials were consumed. The Pacific states used the largest amounts of aqua ammonia, as might be expected, while the east south central states of Kentucky, Tennessee, Alabama and Mississippi used the greatest tonnage of ammonium nitrate. Anhydrous ammonia found its greatest markets in the west south central states of Arkansas, Louisiana, Oklahoma and Texas, while the Pacific states were not far behind.

The increase of "secondary" plant nutrients appears to be consistent with the greater trend toward "prescription" grades of plant foods calculated through soil tests. That this phase of fertilizer manufacturing is gaining in importance is well illustrated in the figures presented by USDA.

The beginning of a new year was a good time to bring out the good news that fertilizer consumption was on the increase during 1957, and that there are good prospects for its continuing in the same trend during the coming season. The industry needs a little encouragement and it is evident that it will be on its toes throughout 1958 in seeking every opportunity to make sales.

Production Research Still Important Despite Surplus

In a recent talk before a group at the Virginia Agricultural Experiment Station, Dr. Byron T. Shaw, administrator of the Agricultural Research Service, USDA, outlined some of the responsibilities of research, warning everyone not to sell production research short.

Here are some of Dr. Shaw's remarks on fertilizer research:

"Research is continuing to show that proper fertilization can sharply increase the per acre production of most crops. Application of nitrogen fertilizer to native ranges in the Northern Great Plains tripled forage production. One could find many examples of how soil improvement with fertilizers—or other practices—has increased farm output.

"Nevertheless, the level of soil fertility in the United States is still declining. We're not doing enough research nor getting enough of our research into practice to stem the loss. It's estimated that we're losing about a half-million acres of crop land every year to erosion and other depleting processes.

"Furthermore, there is no longer a land frontier in the United States. Today, we have about 475 million acres of crop land. To be sure, there are more acres that could be brought into production, but only at a cost higher than we're paying to protect those productive acres we already have.

"Some of the broad aims of our soil and water research effort are to find better ways to control wind erosion . . . to conserve moisture on dryland farms and ranges . . . to protect watersheds and prevent flooding . . . to improve drainage and irrigation practices . . . and to determine the underlying causes of poor soil structure. We need this kind of production research.

"In terms of soil productivity we have not yet reversed the downward trend. In terms of our total agriculture, we can conclude that it takes a lot of production research to keep it operating at its present pace—to help farmers hold their own.

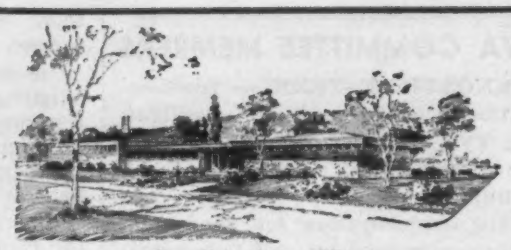
"These are only a few examples. There are hundreds more that show how close we are to the line that divides success from failure in this never-ending search for knowledge.

"Furthermore, in those instances when research does lead to greater production efficiency in soils, crops, and livestock, it contributes importantly to the improved marketing and utilization of farm commodities.

"Today, because of research, livestock products —meat, milk, eggs, cheese, and ice cream—are marketed at greater advantage than ever before. There's a wider variety of these foods in the stores. They're more attractively packaged and displayed . . . they're fresher . . . and higher quality. They're more convenient to buy, carry, and use. And, generally, we consumers are better informed. We're more aware of the nutritional values, and we're better satisfied with what we buy.

"But the fact remains that many people would eat more of these good foods if they could get them at lower cost. And with our population booming, this potential market for livestock products will stay strong in the years ahead.

"Here then, is a market for farmers to aim for. But how well they succeed in reaching it depends to a great extent upon continued emphasis upon production research."



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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is $5 for one year ($8 a year outside the U.S.). Single copy price, 25¢.

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MEETING MEMOS

March 13-14—Oregon Feed & Seed Dealers Assn., Annual Convention, Multnomah Hotel, Portland, Ore.

April 17-19—California Hay, Grain & Feed Dealers Assn., Annual Convention, Ambassador Hotel, Los Angeles.

EDITOR'S NOTE: The listings above are appearing in the Meeting Memos for the first time this week.

Jan. 7-8—Texas Fertilizer Conference, Texas A&M, College Station, Texas.

Jan. 8-9—Twelth Annual Wisconsin Insect Control Conference, Loraine Hotel, Madison, Wis.

Jan. 8-10—Northeastern Weed Control Conference, Hotel New Yorker, New York, R. J. Aldrich, Rutgers University, New Brunswick, N.J., Secretary.

Jan. 9-10—Mississippi Insect Control Conference, State College, Miss.

Jan. 13-14—National Cotton Council of America, twentieth annual meeting, Westward Ho Hotel, Phoenix, Ariz.

Jan. 13-14—Nebraska Fertilizer Meeting, University of Nebraska, Lincoln, Neb.

Jan. 13-15, 1958—Weed Society of America and Southern Weed Conference, joint meeting, Peabody Hotel, Memphis, Tenn.

Jan. 14-15—Georgia Plant Food Educational Society, Annual Meeting, University of Georgia, Athens, Ga., Fielding Reed, 710 Mortgage Guarantee Bldg., Atlanta, Ga., Secretary-Treasurer.

Jan. 14-16—Nebraska Fertilizer, Machinery and Chemical Exposition, Sponsored by the Nebraska Fertilizer Institute with the Nebraska College of Agriculture, Pershing Auditorium, Lincoln, Neb.

Jan. 20-21—Pest-O-Rama, sponsored by the Alabama Association for Control of Economic Pests, Coliseum, Montgomery, Ala., W. G. Eden, P.O. Box 626, Montgomery, Ala., Secretary-Treasurer.

Jan. 20-29—Virginia Polytechnic Institute Fertilizer Schools; at Culpeper Jan. 20, Tappahannock Jan. 21, Richmond Jan. 22, South Boston Jan. 23, Lexington Jan. 24, Marion Jan. 27 and Suffolk Jan. 29.

Jan. 21-22—Michigan Insecticide & Fungicide Conference, Kellogg Center, Michigan State University, East Lansing, Mich.

Jan. 21-22—North Carolina Pesticide School, College Union Bldg., North Carolina State College, Raleigh.

Jan. 21-22—Illinois Fertilizer Industry Conference, University of Illinois, Urbana, Ill.

Jan. 21-23—California Weed Conference, San Jose, Cal.

Jan. 22—Minnesota Aircraft Sprayers Short Course, University of Minnesota, St. Paul campus.

Jan. 22—Oregon Fertilizer Dealers Day, Oregon State College, Corvallis, Ore.

Jan. 22-23—Northwest Agricultural Chemicals Industry conference, Hotel Benson, Portland, Ore. (In connection with N.W. Vegetable Insect Conference and Western Cooperative Spray Project.)

Jan. 23-24—Tenth Illinois Custom Operators School, University of Illinois, Urbana.

Jan. 27-31—Seventh Annual Oregon Chemical Applicators Short Course, Withycombe Hall, Oregon State College, Corvallis, Ore.

Jan. 30-31—Colorado Agricultural Chemicals Assn., Annual Meeting, Cosmopolitan Hotel, Denver.

Feb. 2-4—New York Garden Supply Show, New York Coliseum, New York City.

Feb. 4-5—Kansas Insect & Weed Control Conference, Williams Auditorium, Kansas State College, Manhattan, Kansas.

Feb. 4-6—North Carolina Pest Control Operators' Short Course, College Union, Raleigh, N.C. Clyde F. Smith, Dept. of Entomology, N.C. State College, secretary.

Feb. 10-11—Southwestern Branch, Entomological Society of America, annual meeting, Shamrock Hilton Hotel, Houston, Texas.

Feb. 12-13—Shell Chemical Corp. Nematology Workshop, Hotel Stardust, Yuma, Ariz.

Feb. 13-14—Agronomists-Industry Joint Meeting, Edgewater Beach Hotel, Chicago, sponsored by the Middle West Soil Improvement Committee, Z. H. Beers, 228 N. LaSalle St., Chicago 1, Ill., Executive Secretary.

Feb. 20-21—Shell Chemical Corp. Nematology Workshop, Holiday Inn Motel, Toledo, Ohio.

Feb. 20-22—Nitrogen Conference, University of Minnesota, St. Paul. M. W. Mawhinney, Smith-Douglass Co., Albert Lea, Minn., Chairman.

March 4-5—Western Cotton Production Conference, Hotel Cortez, El Paso, Texas, Conference Sponsored by the National Cotton Council and the Five State Cotton Growers Assn.

April 13-15—Sixth Annual California Fertilizer Conference, California State Polytechnic College, San Luis Obispo, Sidney H. Bierly, 475 Huntington Drive, San Marino 9, Cal., General Manager.

April 22—Western Agricultural Chemicals Assn., Spring Meeting, Hotel Biltmore, Los Angeles; C. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., executive secretary.

June 9-11—Association of Southern Feed & Fertilizer Control Officials, Heart of Atlanta Motel, Atlanta, Ga., Bruce Poundstone, University of Kentucky, Lexington, Ky., Secretary-Treasurer.

June 15-18—National Plant Food Institute, Annual Meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 25-27—Pacific Branch, Entomological Society of America, San Diego, Cal.

July 8-10—Pacific Northwest Plant Food Assn., Ninth Annual Regional Fertilizer Conference, Pocatello, Idaho.

July 18-19—Southwest Fertilizer Conference and Grade Hearing, Buccaneer Hotel, Galveston, Texas.

Oct. 22-24—Pacific Northwest Plant Food Assn., Annual Meeting, Gearhart, Ore., Leon S. Jackson, P.O. Box 4623, Sellwood-Moreland Station, Portland, Ore., secretary.

Kendrick R. Eilar In New APCCO Post

WHITTIER, CAL.—Dr. Kendrick R. Eilar has been named head of the organic chemistry section of the American Potash and Chemical Corp. research laboratories at Whittier. He was previously a group leader in the agricultural chemicals section of the laboratory.

Dr. Eilar received his early education in Albuquerque, N.M., and attended Harvard University. His graduate study at the University of Colorado was followed by a post-doctoral fellowship at the University of Illinois. He served three years in the navy during World War II. He is married and has three sons.

Fertilizer Helps Grow High Quality Alfalfa

COLUMBIA, MO.—Proper fertilizer use can help farmers grow three to four tons of high quality alfalfa per acre on land formerly considered too poor and thin for this legume crop, according to Marshall Christy, University of Missouri extension soils specialist. Mr. Christy says that in Missouri tests, alfalfa yields have averaged nearly four tons per acre over a six year period on shallow soils.

In these tests some of the plots were plowed seven inches deep. Others were plowed 14 inches deep. Alfalfa yields were the highest where additional fertilizer treatments were applied to correct nutrient deficiencies of the lower seven-inch depths.

In other tests with permanent type pastures, Mr. Christy reports that fields can be expected to respond profitably to liberal applications of fertilizer containing nitrogen, phosphate and potash.

Twice as much grazing has been possible in pasture demonstrations where fertilizers have been broadcast on the surface of fair to good stands, according to Mr. Christy. He says these stands had previously been established with applications of lime, phosphate and potash fertilizer to supply needed mineral nutrients.

New Pest Attacks Arkansas Rice Crop

FAYETTEVILLE, ARK.—Arkansas farmers who plant rice after lespedeza can expect damage from a new rice pest. The insect is grape colaspis larva, according to Dr. W. H. Whitcomb, entomologist, and E. P. Rouse, research assistant, with the University of Arkansas' Agricultural Experimental Station.

Females lay eggs during July and August in lespedeza fields. Larvae feed on small roots until early cold weather. They then lie dormant against the soil hardpan until early spring, the entomologists say.

Around the last of March, when farmers usually plow the lespedeza sod and plant a new rice crop, the larvae move to the upper two inches of the soil. As rice seeds germinate, colaspis larvae attack the young shoot near where it leaves the seed. Some farmers plow up the crop because the insects destroy large areas and leave a poor stand of rice.

Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

Rates: 15¢ per word; minimum charge $2.25. Situations wanted, 10¢ a word; $1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Display advertising accepted for insertion at minimum rate of $11 per column inch.

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PORTLAND, ORE.—Weyerhaeuser Timber Co. has announced it is making and soon will market commercially a fine chemical from the bark of Douglas fir. The chemical, quercetin, is the first fine chemical to be made commercially from Douglas fir bark in the region. It will be manufactured and sold for pharmaceutical and chemical use by the company's central development department at Longview.

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Follow any Midwest or West Coast Farmer on his daily round . . . you're sure to bump into Earnie! An intensive, wide-spread advertising campaign carries Earnie everywhere . . . He's working and working hard—to build more sales, bigger sales and higher profits for every Elephant Brand fertilizer dealer!

IN FARM JOURNALS . . .

Earnie's "Fertilizer Tips" will appear time and time again in farm journals and special farm magazines throughout the Midwest and Pacific Coast areas.

ON THE RADIO and TV...

This Spring, radio stations throughout the principal Midwest and North West agricultural areas will carry an intensive schedule of Elephant Brand announcements. Seven TV stations will be used.

ALONG THE HIGHWAY...

Earnie will greet American Farmers from the road-sides on dozens of distinctive, strategically located billboards.

AND AT THEIR ELEPHANT BRAND DEALER

They'll find Earnie here, too, ready to help complete the sale with wall cards, pamphlets, samples and other dealer aids . . . selling *more* Elephant Brand this year than ever before!

EVERY ELEPHANT BRAND DEALER CAN HELP EARNIE BUILD SALES . . . WITH ADVERTISEMENTS OF THEIR OWN IN THEIR LOCAL NEWSPAPERS AND RADIO STATIONS. ELEPHANT BRAND'S NEW DEALER AD SERVICE IS NOW AVAILABLE. ASK YOUR ELEPHANT BRAND FERTILIZER DISTRIBUTOR FOR DETAILS.

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